



No.

DEPARTMENT OF

640.5 AA Vol. 5

LIBRARY OF THE

Agricultural Experiment Station,
UNIVERSITY OF ILLINOIS.

Books are not to be taken from the Library Room.

REMOTE STORAGE



*Museum
Analyst*

5-
1889

AGRICULTURAL
EXPERIMENT STATION.
JAN 2 1890
UNIVERSITY OF ILLINOIS.

2-624

The

AMERICAN ANALYST.

VOLUME V.

—1889.—

Amphib Vol 5

REMOTE STORAGE

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 1.

NEW YORK, THURSDAY, JANUARY 3, 1889.

WHOLE No. 97.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Bananas and Plantains	4
Bread, The Chemistry of	3
Carving	3
Domestic Dietetics	5
Editorial	1
Our Greeting for 1889; The Government and Pure Food; Result of Stupid Legislation; A Persecuting Prosecutor; That Society Again.	
Impure Water	3
Insensible Sensations	2
That Movement	4
Useful Work of Boards of Health	4

OUR GREETING FOR 1889.

In compliance with the repeated and widely-expressed wishes of our patrons, both subscribers and advertisers, the AMERICAN ANALYST will hereafter be published each week instead of twice a month. This change is not a suggestion of recent occurrence, but its expediency and importance have been pressed upon our observation with growing force for a long while, and the step has been for several months under consideration. It was thought best, however, to conclude the volume, just finished, under the old system, and to enter upon the new one with the beginning of the year. Apart from more than doubling our yearly issues—and consequent expenses—and the introduction at appropriate times of new features of interest, there will be no change in the scope and character of the journal. The subscription price also will remain as heretofore, One Dollar a year, making the AMERICAN ANALYST the cheapest publication of its character in the United States. Our readers and our advertisers, alike, will

derive benefit from our more frequent grasp upon the public attention; and we hope, in turn, to deserve and attract the increased approval of the home-loving public, in whose particular behalf our service is given.

With which brief words of greeting we wish our many patrons from California to Maine, from Canada to Louisiana, and from Europe to distant Australia, all the blessings and good gifts attendant upon

A HAPPY NEW YEAR.

THE GOVERNMENT AND PURE FOOD.

At the last session of Congress an act was passed, which the President approved in October, making the Commissioner of Internal Revenue responsible for the prevention of food adulteration in the District of Columbia. Regarding this law as a step in the direction of general pure food legislation, the Commissioner caused a compilation to be made of the laws of other countries, and an investigation of food adulterations and the means of their prevention. This task was intrusted to Prof. Richards, Government chemist and microscopist, of whose report an abstract has been given to the public, containing a number of interesting features. The position maintained for several years by the AMERICAN ANALYST, that the general prevalence of harmful food adulteration is largely a fiction, attributable to sensational newspaper writers, and notoriety-seeking charlatans of other guilds, is emphatically indorsed in this official report. Thanks to the wide-awake solicitude of our Boards of Health, city and State, and to the inflexible exposures of frauds by the press, which this journal initiated and has consistently maintained, the adulteration fiend is steadily finding his sphere of operations become more and more circumscribed and precarious. We quote below a portion of Prof. Richards' report, one passage in which, relating to the wholesome character of oleomargarine, whose manufacture in this country is now so unjustly restricted by unfair legislation, we desire to call to our readers' special attention:

A list of the most common adulterants met with in the principal food products, compiled from the reports of the State Boards of Health, the returns of the English Inland Revenue Department, and the report of the Municipal Laboratory of Paris, shows that the great majority of substances used for adulterants are not injurious to health; the public is *cheated*, but not *poisoned*. They consist for the most part in the willful and fraudulent addition of substances which do not exist in the normal product or are only found there in the abnormal product, or only in an appreciably lower proportion. The number of substances used that are positively injurious to health is small, and they generally make their presence felt by the prompt manner in which dangerous symptoms manifest themselves in the consumer. Such are the arsenic, copper, lead and other metallic poisonous salts that are sometimes used for artificial colors in candies, pickles, etc. It seems to be a popular impression that any substance used as an adulterant of, or a substitute for, a food product is to be avoided as itself being injurious to health. Such impression is erroneous in nearly every

case. Oleomargarine, for instance, is a mixture of milk, cream, butter, suet fat, lard, cotton-seed oil in the lower grades and salt, with a very small proportion of the coloring matter, annatto, used by farmers to produce the rich golden tint. The greatest cleanliness is observed throughout its manufacture, and the finished products, as well as all its ingredients, are perfectly pure and wholesome articles of food. Food adulteration is carried on by manufacturers in the interest of pecuniary profit and gain, and they take pains to keep themselves well posted on the subject of cheap and harmless substitutes. This is well illustrated in the most recent form of milk adulteration. Any general law on food adulteration should clearly define the terms "adulteration," "alteration," "imitation" and "substitution." It should also consider the use of antiseptics, of harmful coloring matters, and of the products of diseased animals. A clear and concise definition of the different food products, as well as an accurate statement of what shall be the minimum composition of the principal ingredients of the chief food products, would also be very desirable.

THE RESULT OF STUPID LEGISLATION.

Not long ago the dairy interest in this country succeeded in having laws passed to check the manufacture and sale of oleomargarine, and, while in some States it was absolutely prohibited, in all the sale of this really good and wholesome butter substitute was interfered with to such an extent that the consumer has been compelled to purchase butter which is infinitely poorer than oleomargarine, at outrageous prices. This achievement was damaging enough, but a more serious damage has resulted. England, seeing the precautions Americans were taking, and very naturally judging that as oleomargarine was an essentially American product we should know all about it, passed similar restrictive laws, and now the English market is almost closed against an important American export. It is true that there are comparatively few engaged at present in the manufacture of oleomargarine, yet it is equally true that an extensive industry cannot be injured without doing equal injury to collateral industries. This English imitation of our suicidal oleomargarine legislation has already borne fruit in cutting down the prices farmers and cattle breeders receive for their cattle. In this connection it may be pertinent to ask how long it will be before England will notice the tendency here to hamper and restrain the dressed beef industry, and by following that pernicious example seriously check our export trade with herself, and thus drive another nail in the coffin of our cattle interests?

A PERSECUTING PROSECUTOR.

Laws for the restriction of the traffic in alcoholic liquor are presumably adopted in the interest of the public, and not for the benefit of any particular class of individuals. A crafty Kansas lawyer, however, seems to have been construing the liquor law of that State as an instrument for his own pecuniary advancement, irrespective of the public welfare. Under the heading, "Arrested for Big Costs," the daily papers of Decem-

F. W. DEVOE & CO.,

ESTABLISHED 1852.

PURE MIXED PAINTS

WE desire to call attention of consumers to the fact that we guarantee our ready-mixed paints to be made only of pure linseed oil and the most permanent pigments. They are not "Chemical," "Rubber," "Patent," or "Fireproof." We use no secret or patent method in manufacturing them by which benzine and water are made to serve the purpose of pure linseed oil. Sample cards containing 50 desirable shades, sent on application.

Catalogues of our different departments to responsible parties.

FINE VARNISHES, WOOD FILLERS, WOOD STAINS.

Artist's Materials. Mathematical Instruments.

Cor. Fulton and William Sts., New York.

COFFIN, DEVOE & CO.,

179 RANDOLPH STREET, CHICAGO.

ber 9 announced the re-arrest and imprisonment for costs, amounting to \$5,277, of Mr. Stewart, a Wichita (Kan.) drug clerk, who about a year ago was fined \$20,000 and sentenced to seventeen years in jail for selling a few glasses of beer. After six months in jail Stewart was pardoned by the Governor, but the Assistant Attorney-General, after an unsuccessful attempt to collect costs from the building in which the liquor was sold, demands now that Stewart shall be incarcerated until the costs, amounting to \$5,277, shall have been paid. Of this amount, \$5,200 go to the prosecuting attorney, leaving but \$77 for the county. "This," says the *National Druggist*, with truthful emphasis, "is simply outrageous, and is an apt illustration of the charges made by our Kansas City correspondent, some months ago, that the enforcement of the Kansas liquor law was simply a question of fees to the prosecuting attorneys. It is, however, exactly the way to bring the whole system into such disrepute that the people will be compelled to abolish it. The sooner the better for decency and humanity.

THAT SOCIETY AGAIN.

The famous American Society for the Prevention of Adulteration of Food, whose membership is made up of thirty-five retail grocers and some shining lights of the Philadelphia bar, threatens to hold its annual convention this month in Washington. As none but the actual members are to be invited, there will probably be some funny proceedings, but happily no public damage can ensue. The yearly demonstrations of these retail agitators remind us of the flies on the revolving wheel exulting over the dust they are raising. They hold themselves in high esteem. When they have finished their palaver, however, they go complacently home again, and the world resumes its accustomed diurnal rotations.

BURNETT'S

PERFECTLY
PURE
Standard Flavoring
HIGHLY
CONCENTRATED
EXTRACTS

THE superiority of these Extracts consists in their **PERFECT PURITY AND GREAT STRENGTH.**

There is no subject which should more engross attention than the purity of the preparations which are used in flavoring the various compounds prepared for the human stomach.

They are not only true to their names, but are prepared from fruits of the best quality, and so highly concentrated that a small quantity only need be used.

JOSEPH BURNETT & CO., Boston, Mass.

INSENSIBLE SENSATIONS.

QUESTIONS OF EXISTENCE WHOSE SOLUTION IS DEFERRED.

The following conjectures on "sensations not known," taken from the *Popular Science Monthly*, are interesting in the suggestions they offer of a vast domain of sight and sound, ever with us and surrounding us, but outside the present reach of human recognition:

Sound is the sensation produced on us when the vibrations of the air strike on the drum of our ear. When they are few, the sound is deep; as they increase in number, it becomes shriller and shriller; but when they reach 40,000 in a second they cease to be audible. Light is the effect produced on us when waves of light strike on the eye. When four hundred millions of millions of vibrations of ether strike the retina in a second, they produce red, and as the number increases the color passes into orange, then yellow, then green, blue and violet. But between 40,000 vibrations in a second and four hundred millions of millions we have no organ of sense capable of receiving the impression. Yet between these limits any number of sensations may exist. We have five senses, and sometimes fancy that no others are possible. But it is obvious that we cannot measure the infinite by our own narrow limitations. Moreover, looking at the question from the other side, we find in animals complex organs of sense, richly supplied with nerves, but the function of which we are as yet powerless to explain. There may be fifty other senses as different from ours as sound is from sight; and even within the boundaries of our own senses there may be endless sounds which we cannot hear, and colors as different as red from green, of which we have no conception. These and a thousand other questions remain for solution. The familiar world which surrounds us may be a totally different place to other animals. To them it may be full of music which we cannot hear, of colors which we cannot see, of sensations which we cannot conceive.

A LARGE PERCENTAGE.—In London, in 1886, there was one doctor to every 939 persons.

STEVENSVILLE MILLS.

IMPEROYAL VACUUM COOKED OATS. IMPEROYAL VACUUM COOKED WHEAT.

M. D. STEVENS'

SOLE MANUFACTURER OF

ABSOLUTE PURITY.



HOUSEHOLD NECESSITY.

ONE MINUTE IN PREPARATION.

IMPEROYAL VACUUM COOKED HOMINY. IMPEROYAL GRIDDLE CAKE FLOUR.

Recommended by Eminent Physicians and Chemists.

Adapted to all kinds of Pastry, Bread, Biscuit, Griddle Cakes, etc., and its absolute purity and freedom from Alum, Terra Alba or any injurious ingredient, makes it a necessity in every household. No lady can afford to be without it. Sold by best Grocers.

M. D. STEVENS,

Room 18, Mercantile Exchange, Cor. Hudson & Harrison Sts., NEW YORK.

Doctor

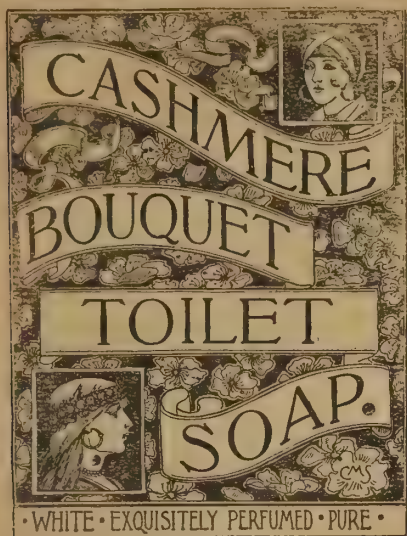
Cupid's

Advice.



It is a full and complete diet, prepared with water only. Always uniform in quality and the most economical food available.

THOMAS LEEMING & CO., SOLE AGENTS, NEW YORK.



BREAD.

THE CHEMISTRY INVOLVED IN THE FAMILIAR PROCESS OF MAKING IT.

The transformation of the flour, obtained by grinding wheat, into a soft, spongy, nutritious mass known as bread, although a matter of everyday occurrence, is dependent upon some very peculiar and important chemical changes. If flour is mixed with water to form a dough, and dried at the temperature of the air, an unpleasant-tasting mass is obtained, which contains the starch of the flour in an unaltered and insoluble state, and very difficult of digestion; and to obtain a nutritious and palatable bread, it is necessary to induce certain chemical and physical changes in the flour. Wheat flour is principally composed of starch, and contains, on an average, about sixty-three per cent. of that substance, with fifteen per cent. of water. The remainder is made up of small amounts of sugar, fat, casein, and a mixture of various gummy bodies, generally known as gluten. This gluten is an important part of the flour, giving it consistency and flavor, and also rendering it more nutritious. By kneading flour under a gentle stream of water, the starch can be washed away and the gluten separated. The action of the heat in baking causes certain changes to take place in the starch, by which it is rendered soluble, and to some extent converted into another substance resembling gum, and known as dextrine. The outside of the loaf is altered to a greater extent, forming the crust. These changes have the effect of rendering the bread both nutritious and palatable; but to prevent its becoming a heavy, solid mass of dried dough, it must be "raised," or inflated with gas, so as to convert it into a light, spongy substance which can be easily masticated and digested. The gas used for this purpose is always carbonic dioxide, and the best method to develop it in the mass of dough is to set up a vinous or alcoholic fermentation by the addition of yeast. This substance is a most remarkable living organism, which, when introduced into the dough, begins to feed upon the starch, which it changes into alcohol and carbonic acid gas. Owing to the tenacious nature of the dough, the gas cannot escape, but, as it expands, renders it spongy and light. The heat of the baking oven still further expands the gas, and completes the process, at the same time killing the yeast, and preventing further fermentation. If the fermentation continues too long, it passes over into the acetic variety, the alcohol is changed to vinegar, and the bread "sours." The alcohol produced in the process is nearly all dissipated in the baking; but it is an appreciable quantity, and some years ago a company was formed in England to introduce appliances for condensing and saving it. The method was found impracticable, but it created considerable excitement, and

one baker advertised to sell his bread "with all the gin in it." When baking powder is used as a leavening agent, carbonic acid gas is formed in the dough as with yeast, only it is set free by the reaction of certain chemicals upon each other, forming salts which remain in the bread, and none of the constituents of the flour are decomposed. A process has also been tried of kneading the dough in closed vessels with water containing carbonic acid gas in solution under pressure, like soda water, the supposition being that when the pressure was removed the gas would expand and cause the dough to rise. This aerated bread, as it was called, has been made both in this country and England, but the method has not been successful, and it is not now in use. It is interesting to note that the style of oven and method of bread baking in use in Europe at present has undergone little or no change since the earliest times. The old-fashioned brick oven is still used, and the fire built inside until the necessary heat is obtained, when it is raked out and the loaves put in its place. Although the method is a clumsy and wasteful one, it must be confessed that the bread produced by the French and German, and especially the Viennese, bakers is unexceptionable in quality. Probably the care used in mixing and kneading has as much to do with the result as the baking itself. Bread is not often adulterated, but the deficiencies of a poor flour are sometimes covered up by the addition of alum or a minute quantity of sulphate of copper (blue vitriol). These substances render the bread whiter and of a better consistency, but are not only a fraud upon the purse of the consumer, but detrimental to his health as well. Most of the cheaper varieties of baking powder contain alum, and their use cannot be recommended. The art of bread making has been known from the earliest times, and as early as the period of the Jewish exodus the process of leavening was in general use. In the museum at Naples there are exhibited loaves of bread taken from a shop at Pompeii and stamped with the name of the baker. They are perfect in shape, but are quite black, probably from the heat of the volcanic ashes which were cast upon the city from Vesuvius. When properly made, bread is a most wholesome and nutritious food, and, with the other cereal products, forms the principal means of sustenance of a large majority of the human race.—*Pop. Science News.*

CARVING.

SOME SUGGESTIONS FOR THE HEAD OF THE FAMILY.

But in a club, says Ude, nothing is so prejudicial as bad carving. A joint ill carved at first by one, is always disregarded by the other members; and, frequently, from this circumstance, a joint of great weight and price is no longer presentable, and is left, to the loss of the establishment. In serving soup, one ladleful to each plate is sufficient. A steel knife applied to fish is likely to spoil the delicacy of its flavor, so that it should be helped with a silver slice or trowel, and be eaten with a silver knife and fork. Do not pour sauce over meat or vegetables, but a little on one side. In helping at table, never employ a knife where you can use a spoon.

The fairest mode of cutting a ham, so as to eat fat and lean evenly, is to begin at a hole in the centre of the thickest part, and cut from it thin circular slices; by this means also the moisture and flavor of the ham are best preserved.

The upper part of a roast sirloin of beef should be carved at the end, and never cut in the middle, unless you wish to destroy the joint in revenge.

Be careful always to cut down straight to the bone, by which method you never spoil the joint, and help many persons with little meat; what remains looks well, and is good to eat.

In carving a leg of mutton, slice it *lightly*, else if you press too heavily the knife will not cut, you will

squeeze out all the gravy, and serve your guests with dry meat.

Ude considers a saddle of mutton is usually carved contrary to taste and judgment. "To have the meat in the grain, pass your knife straight to one side of the chine, as close as possible to the bone; then turn the knife straight from you, and cut the first slice out, and cut slices lean and fat. By disengaging the slices from the bone in this manner, it will have a better appearance, and you will be able to assist more guests."

If you begin to carve a joint in the middle, the gravy will run out on both sides, and the meat shrink and become dry, and be no more presentable.

Never pour gravy over white meat, as the latter should retain its color.

Of roasted fowl, the breast is the best part; in boiled fowl, the leg is preferable.

The shoulder of a rabbit is very delicate; and the brain is a tit-bit for a lady.

In helping roast pheasant or fowl, add some of the cresses with which it is garnished.

The most elegant mode of helping hare is in filets, so as not to give a bone, which would be a breach of good manners.

Before cutting up a wild duck, slice the breast, and pour over the gashes a few spoonfuls of sauce, composed of port wine or claret (warmed), lemon juice, salt and cayenne pepper.

The most delicate parts of a calf's head are the bits under the ears, next the eyes, and the side next the cheek.

If cray-fish be added to a fricasseed chicken (as in France), one of the fish should be placed on the top, in dishing, and served to the first guest.

IMPURE WATER.

SOME SIMPLE TESTS FOR ITS DETECTION.

The growing popular knowledge of invisible impurities, and the deepening impression upon the minds of people, the necessity of a pure water supply, have caused a demand for a simple and convenient test. As yet there is no certain and reliable test by chemical analysis. The following tests are recommended by the *Engineering and Building Record*: "Fill a perfectly clean quart bottle half full of water, cork and shake it; remove the cork and see if any odor can be detected at the mouth of the bottle. Cork the bottle again and put into a warm place for a few hours, or set into a pan of hot water for an hour. Shake, uncork, and again test by smell. If an unpleasant or faint, or musty odor is perceptible, the water requires more minute investigation. The second simple test is to evaporate a quart of water to dryness in a new tin pan or cup, and note the character of the residue, and what happens when it is strongly heated in a metal spoon. If the sediment left after evaporation is small, and on being burnt in a metal spoon gives rise only to such an odor as comes from burning vegetable matter, the water is not greatly contaminated with sewage. But if the sediment is in considerable quantity, dark in color, and burns, giving off the peculiar odor of burning hair or other animal matter, then the water is foul."

PROGRESS BACKWARD.—The Board of Directors of the Western Pennsylvania Medical College have refused to admit female students. Six young ladies applied for admission.

QUALITIES OF WOOD.—According to Professor Sargent, the strongest wood in the United States is that of the nutmeg hickory of the Arkansas region, and the weakest is the West Indian birch. The most elastic is the tamarack, the white or shellbark hickory standing far below it. The least elastic and the lowest in specific gravity is the wood of the *Ficus aurea*. The highest specific gravity upon which in general depends value as fuel, is attained by the bluewood of Texas.

A. J. 1894

BANANAS AND PLANTAINS.

THEIR NATURE, CULTURE AND ECONOMIC VALUE.

The banana is much softer and more delicately flavored than the plantain. The fruit when ripe contains 74 per cent. of water; of the twenty-six remaining parts, twenty are sugar and two gluten or flesh-forming substance. Like rice, it is not by itself a perfect food, but requiring the addition of some more nitrogenous material, as pulse or lean meat. When dried and converted into meal, it is less nutritious than the meal of the grain mentioned. In tropical countries it is, nevertheless, a most valuable food, and is so extensively consumed as to take the place of our cereal grains as the ordinary article of diet. About six and a half pounds of the fruit, or two pounds of the dry meal, with one-quarter pound of salt meat or fish, form in tropical America the daily allowance for a laborer. The pulp of the plantain is squeezed through a fine sieve and formed into loaves, which, when dried, will keep a long time. The unripe fruit often becomes the staff of life; it is dried in the oven and is eaten in this state, and will keep such a length of time that natives carry it with them when proceeding on journeys. While unripe the fruit is filled with starch, and when dried has a resemblance to bread both in taste and composition. The loaves made by the ripened pulp are saccharine and not farinaceous. There are many instances of men subsisting entirely upon bananas, who have been deserters from ships in tropical climes. Mr. Stanley, in his book, "Across the Dark Continent," frequently mentions bananas as one of the principal articles of food for his party, and as one of the most important crops of the natives. He states that "villages and banana fields were always found together." Also, that in the dwarf lands bananas as long as his arm and plantains as long as the dwarfs (just one yard) were sufficient food for a man one day. He says, besides, that he was "compelled for weeks to subsist on green bananas, cassava and sugarless tea," and a scant supply at that. At a place on the Congo he purchased "ten bananas, thirteen inches in length by three inches in diameter."

In British Guiana and other tropical countries bananas are largely used as the food of infants, children and invalids. They are of higher alimentary value than such preparations as sago or arrow-root, because containing a larger proportion of starch and a certain percentage of nitrogenous matter.

The name of the plantain is derived from the Spanish name plantano, by which this plant is known in foreign countries, the name banana never being used. It forms a spurious kind of stem five to thirty-five feet in height, by the sheathing bases of its leaves—those on the largest varieties measuring over ten feet long and two feet wide. The stem sends out these large ends from the centre of the top until it arrives at maturity, when a smaller leaf appears, which indicates that it will fruit. The fruit stem then sends out a large purple bud shaped like an ear of corn in its husk. The fruit grows on this stem in "hands" containing from eight to fourteen bananas, and there are about eight to ten of these hands constituting the "bunch," which often weighs one hundred pounds and averages forty pounds. These hands are somewhat spirally placed on the stem. The evolution of the banana on the stem is peculiar and very interesting. First comes the large purple bud or cone already mentioned. This is about twelve inches long and three inches in diameter, having a number of leaves. Secondly, under the first leaf on this cone in due time come from eight to fourteen blossoms. Thirdly, these blossoms in their turn after awhile grow little bananas at their bases in the same way as apples with us grow from their blossoms. Finally, when these bananas have grown about two inches long, the leaf that covers them dries and rolls up and then falls off, and the first "hand" of bananas is revealed, looking quite cute and curious. The second and succeeding

hands are formed in the same way, but meanwhile the cone keeps growing in length and the stem in thickness, thus giving space between the "hands" for the fruit when fully grown, and strength to the stem to sustain the great weight of the completed bunch. The fruit of a single tree averages from thirty to forty pounds, and often seventy or one hundred pounds.

The banana tree bears but one bunch of fruit before it dies down, when from two to ten trees spring up around it. The banana is eaten in many ways, but principally raw when ripe. A certain coarse banana, which is not agreeable to eat raw, is peeled, sliced and fried in hot lard, and is a delicious vegetable for the table. Those who purchase green bananas by the bunch to ripen in the store closet will find this an excellent and acceptable way to cook some of them. The fibre of the banana tree is worth more than its fruit, which cost but fifteen cents a bunch in its native clime; but this fibre in many countries is permitted to go to waste. In Central America this fibre, with only the preparation of drying, is made into shoe strings and cords for all uses. It is divided into threads of silken fineness extending the length of the body of the tree, which shoots up from ten to fifteen feet without a branch. Within the last three years the imports of bananas at the port of New York alone has doubled. Three million bunches are brought here annually, and nearly all of them in steamships loaded only with this fruit. Formerly they were brought here in "fruiters," or fast sailing ships. About one-half of the imports come from the port of Baracoa, Cuba, but the island of Jamaica is increasing her exports of this fruit so rapidly that now they amount to \$200,000 more than what is realized on sugar. In August of this present year there were ten steamships loaded in one week with 120,000 bunches, valued at \$60,000, for northern ports of this country. It is estimated that the increased receipts of bananas per year is 40 per cent. Formerly New York was the only port at which the banana was received, but since the trade has increased so extensively Boston, Philadelphia and Baltimore are now importing the fruit. The yellow banana importations are 40 per cent. more than those of the red species. The sale of the red banana is confined to New York, the Eastern States and some portions of Canada. The yellow fruit is preferred on account of its superior flavor, and because it is more profitable to handle. In a bunch of yellow fruit there are just about twice as many bananas as in a bunch of the red variety. The opinions of physicians in regard to bananas as food for the sick have altered in about the same degree as their ideas concerning milk. At one time the latter was supposed to be "feverish," and was denied a typhoid patient. Now it is their chief subsistence. Bananas served cold from the ice are very acceptable to the sick, and are now allowed by most of the medical faculty.—*Journal of Health*.

SANITARY TRUTHS.

SOME OF THE USEFUL WORK DONE BY STATE BOARDS OF HEALTH.

With all the progress that sanitary science has made and is making, some very mischievous notions seem to remain as fixtures in the popular mind, despite the utmost efforts to eradicate them. The series of sanitary conferences or conventions which have become features of the work of the Ohio and Michigan State Boards of Health, are doing much to eradicate these errors and educate the public in line with the advances being made by the scientists. President Avery, of the Michigan board, in his opening address at Hastings, lately, called attention in a rather striking way to one of the common mistakes of the public. He said that if it were to be announced that a case of smallpox was in the room, but few of the audience would be there two minutes later; but if it were known that a sufferer from

diphtheria was in attendance, few, if any, of those present would think it necessary to leave with any haste. Yet diphtheria was just as infectious and much the more deadly disease of the two. Only those contagions were dreaded that had made reputations for themselves, as it were, no attention being paid to the instances of deadly infection occurring daily and on every hand. A disease has to come from a distance and be heralded as a sensation before people will realize its danger. Another instance of insalutary conditions in the midst of supposedly healthy surroundings was quoted at the same session. Professor Victor C. Vaughan referred to frequent cases among farmers in the State where the indications of insufficient oxidation of the blood existed, in spite of the daily outdoor exercise of the patients. The absorption of oxygen in the daytime was more than offset by the lack of ventilation of the farmers' sleeping apartments, where they spent nearly a third of their lives in a vitiated atmosphere, the conditions being frequently such that the oxygen would be used up by the sleeper in the first hour of retirement, the rest of the time being spent in an atmosphere unfit for human respiration. These are two of the most frequent paradoxical proceedings in which the lives and health of the people are sacrificed without the slightest suspicion existing in the minds of the sufferers that they are violating the simplest of the laws, the observance of which is essential to the enjoyment of life for its natural span. The continuance of the policy of the two State boards mentioned, and the adoption of similar means of reaching the popular ear, will, in time, educate the people in at least the essentials of sanitary living, without expecting them to follow every development of science.—*Sanitary News*.

THAT MOVEMENT.

HOW THEY ACCOUNT FOR ITS INTERRUPTION IN ALBANY.

Commenting upon our recent inquiry—propounded in all good faith—as to what had become of the retail grocers' alleged "pure food" movement, our spicy contemporary, the *Merchants' Mail*, of Albany, says:

Our esteemed contemporary will remember what a howl was set up at the Washington convention. A retailer must be set up for president. In the face of that howl we had the courage to nominate for that office a man who was not a retailer. We intended no disrespect to the retailer in so doing. We felt that the retailer who had been nominated did not possess the ability of engineering to a successful ending such a great undertaking. Time has proved that we were right, and one of the chief reasons why the pure food movement is today the laughing stock of the country is because, as we believe, the incompetency of its president. Had a man been selected for that position who had some magnetism about him—a man who possessed to an unusual degree the characteristics of energy and push—to-day would have seen a different result. When the association sees fit to place at its head men who are known outside of a radius of fifty miles—men that have a national reputation—there may then be some prospect for it.

COST OF LIVING.—The average cost of living for all nations is about 29½ cents daily per inhabitant, that is, 40 cents for a man, 32 cents for a woman and 16 cents for a child.

VALUE OF TIMBER.—Timber constitutes a great industry and represents an annual expenditure of \$1,365,000,000. Its consumption throughout the world has increased 50 per cent. since 1850.

TO REMOVE TATTOO MARKS.—M. Variot gives a method of getting rid of tattoo marks which causes but little pain and leaves no deformity. He simply punctures the skin over the mark with fine needles and introduces a little tannin, and then touches the parts with a strong solution of nitrate of silver. This forms a tannate of silver scab that falls off soon, and the mark goes away with it.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

January.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, quail, chicken, duck, turkey, rabbit, goose.

FISH.—Bream, cod, crabs, eels, carp, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, cauliflower, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, squash, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

CARROT SOUP.—Six fine large carrots, two quarts rich stock; cut the carrots, after thoroughly scraping, into thin slices; stew them in the stock until they are tender through, then force them through a sieve or tanning with a wooden spoon, until a red pulp is deposited; re-boil it with stock until thick and rich; season and serve.

DUCK PIE.—Cut off the neck and wings of the duck; put them in a stew-pan with the giblets, a sliced onion, a lump of butter, a bunch of herbs, a bit of mace, cayenne and black pepper and salt. Stew for a few moments till the butter is dissolved; add a cup of boiling water and stew gently for an hour; take from the fire and cool. Take the duck and put it to boil for about a quarter of an hour. Cut it up and arrange neatly in the pie dish, adding what seasoning is required. Skim the fat from the gravy and pour over the duck. Cover with pie crust and bake for one hour.

CURRIED OYSTERS.—To the liquor from one quart of oysters add one-half cupful of butter, two tablespoonfuls of flour and one of curry powder. Put in a saucepan and let boil; add oysters and a little salt; boil up once and serve.

BREAD DICE FOR SOUP.—Cut slices of stale bread in small squares, throw in boiling lard and fry till brown. Skim out, drain, and put in soup tureen before serving the soup. For oyster soup, crackers crisped in the oven are nice.

WHITE AND YELLOW MOUNTAIN CAKE.—Two cupfuls sugar, three-quarter cup butter, whites of seven eggs well beaten, two-thirds cup of sweet milk, two cupfuls flower, one of corn starch, two teaspoonfuls of Horsford's baking powder; bake in jelly cake tins. Frosting.—Whites of three eggs and some sugar beaten together, not quite as stiff as for frosting; spread over the cake; add some grated cocoanut; then put your cakes together; put cocoanut or frosting for the top.

CREAM POTATOES.—The mistake usually made in preparing this excellent dish is that many economical housewives use cold boiled potatoes left from the preceding day. True economy would have been in boiling just enough for each meal; but for potatoes with cream, see to it that they are boiled and afterwards cut up while warm, and seasoned with salt and pepper. Boil half a pint of cream, add to it a walnut of butter, and add the potatoes to it. If milk is used, it may be thickened a little with flour.

PUMPKIN PIES.—Take a small pumpkin, or half of a large one; stew long and slowly; then strain it, after peeling and cutting it in small pieces. Mix with this

quantity of pulp one quart of sweet milk, three eggs, and two tablespoonfuls of corn starch mixed; first smooth with a little of the milk. Salt, sugar and ginger must be put in to taste. A large cup of sugar is about right; one nutmeg. The ginger is indispensable to a genuine pumpkin pie. If part cream can be used, the pie is much richer, as well as more delicate in flavor. Bake with an under crust only.

SCOTCH BARLEY BROTH.—Four pints of soft water, two ounces pearl barley, one pound salt beef, one marrowbone, six shank bones broken into small pieces, two large onions, one stick of celery, two turnips, and two carrots thinly sliced. Set the saucepan containing these ingredients over a clear fire; when it boils, skim it, and let it simmer slowly for five hours. Twenty minutes before serving, add a teacupful of chopped parsley and some salt.

TO USE UP COLD MEAT.—Prepare your meat as for hash; line deep dish with boiled macaroni; on top of that place the hash; cover it with tomatoes, over which sprinkle bread crumbs, with a little butter; bake until nicely browned.

A LIGHT CAKE.—Take a pint bowlful and a half of sugar, one and a half cups of butter rubbed in two pint bowls of flour, two cups of sour cream, a teaspoonful of saleratus, tablespoonful of rose water, four eggs well beaten, and a little nutmeg.

OATMEAL CAKES.—One cup oatmeal, wet with one cup sweet milk; soak over-night; in the morning add a little salt, one teaspoonful Horsford's baking powder, one egg, and enough sweet milk and a little cream to make as other gems; bake in gem-pans in a quick oven.

THE EARTH A SEPULCHRE.—The whole earth is the sepulchre of great men; not only are they commemorated by columns and inscriptions in their own country, but in foreign lands there dwells also an unwritten memorial to them, graven not on stone, but in the hearts of men.

A GLASS EATER BROKEN.—Harrison, the glass-eater of the dime museum, is in the Bellevue Hospital, New York, suffering from gastritis. The goblets and lamp chimneys he used to chew were made for the purpose of isinglass and silicate, but a regular diet of this material has produced severe gastric irritation.

A BIG SCHEME.—There is a scheme on foot for a railroad around the world. It is to run from the United States along the Pacific shore to Behring's Straits, and connect with the Russian railroad from Siberia to St. Petersburg. Engineers who have been looking up the matter say that the scheme is a feasible one, and that it will be accomplished within the next ten years. The Behring Straits are only thirty miles wide, and so dotted with islands that bridging can be made possible. This is rather a big scheme, but one ought never to be surprised at anything in this age.

AN ANCIENT TOAD.—Local antiquarians and zoologists are enchanted at present with a live toad found in the course of railway excavations at Greenock, Scotland. The toad is from 20,000 to 30,000 years old, as the stratum of clay in which it was found certainly dates from the glacial period. Its mouth is sealed up. It breathes slightly through the nostrils, and though the eyes are quite expressive, it does not seem to see.

DANGERS OF CHEWING GUM.—An interesting interview took place recently between a Philadelphia optician and an editor on the Philadelphia Record in regard to the injuriousness of the gum-chewing habit. He said: "I would advise the girls to stop it at once, 'swear off,' as the drinkers say, for in one respect these dainty girls are like drunkards. If they are chronic gum chewers, they are heir to all the infirmities that afflict the chronic whiskey drinkers. The greatest injury is caused to the eyes. The muscles of the jaws connect with the spine, and from the spine there are fibrous tissues running in all directions; a number of these extending to the eyes are called the optic nerves. These nerves are very sensitive, and when over-worked become shrunken and feeble, and the process of deterioration to the eyesight begins. The vision soon becomes impaired, and eye-glasses must be resorted to."

WHAT IS SARSAPARILLA?

A question that is often asked but seldom answered is, What is sarsaparilla? So many preparations are in the market bearing that name that the question is more than justifiable. The answer is simple enough. Sarsaparilla is the Toltec name for a shrub which grows anywhere from the Rio Grande, on the border of the United States, to the centre of Chili, and which possesses remarkable medicinal and blood-purifying qualities, finding its highest development in Honduras, Central America. When the Spanish *conquistadores*, under Hernando Cortez, landed in Yucatan, to start upon their world-famous subjugation of Montezuma and his Mexican civilization, the first foe that they encountered was the malarial fever, for which Central America now is, and long has been, renowned. The drugs and medicaments of Europe proved worse than powerless, doing more harm than good. The troops sickened and died; nothing seemed left to the bold and reckless adventurers of the Old World save an early and painful death in the New. It was in this condition of affairs that Lieutenant Alvarez called upon the native physicians, and from them received a tea, made by long boiling a mass of Honduras sarsaparilla and straining the resulting thick fluid. Chemistry was then in its infancy, and neither Aztec, Toltec nor European had the faintest conception of the intrinsic value of vegetable extracts, but charged everything to either the skill of the physician or the magical nature of herbs in general. The miraculous success of the sarsaparilla tea attracted the attention of the Spanish monks who accompanied or followed Cortez's quest, and induced them to make a series of investigations, to which every human being is to-day indebted. They found that an extract of sarsaparilla varied according to the age and the freshness of the shrubs used, and that while a young and fresh shrub gave the best possible results an old and decayed one was practically inoperative and worthless. Their researches were extremely interesting. They ascertained that severe cases of blood disease, inflammatory rheumatism, gout and neuralgia had been cured by the use of strong sarsaparilla tea. They learned that the shrub was even venerated as an object of religious adoration. Their reports were duly transmitted to the great monasteries of Europe, and sarsaparilla, especially Honduras sarsaparilla, sprang forth into the *materia medica* of Christian civilization. Here it has ever since remained, and here to-day it occupies the unique position of being the greatest blood purifier with which the medical faculty is acquainted.

Chemistry has made vast strides in the past fifty years, and has discovered the secret which Aztec, Toltec and Spaniard vainly sought. Out of the precious shrub it has extracted the essential principles for the use and benefit of humanity. One concern immediately perceived the value of the discovery and put it to practical use. This was the now world-famous firm of Dr. J. C. Ayer & Co., of Lowell, Mass. Knowing the value of the drug, they imported it in vast quantities, and by means of most ingenious appliances extracted all its beneficent elements. Combining these with other ingredients, they produced Ayer's Sarsaparilla, which, from the onset, has been recognized by physician and chemist as the most reliable and effective blood purifier extant. Realizing its unspeakable beneficence, and desiring to benefit the human race, the Ayers proclaimed the fact to the world, and advertised the composition and properties of Ayer's Sarsaparilla in every publication of the globe. While one result was to bring into being a crowd of imitators, whose sole aim was to realize a fortune by trading upon the superb work of the Ayers, the real result was to make Ayer's Sarsaparilla the standard medicine of every physician and scientist in America and Europe. Years have passed since Ayer's Sarsaparilla was made public property, but never since has any manufacturer ever approached it in purity, efficiency, uniformity and strength. It has kept pace with the progress of the age, and is to-day the best and the most trustworthy blood purifier known to modern science.

THE POWER OF NIAGARA FALLS.—The amount of water falling over Niagara Falls is equal to 100,000,000 tons an hour falling 150 feet. The amount of coal required to raise such a weight up to the point from which it fell, which is a measure of the amount of power yielded by that water in falling, would require the consumption of 260,000,000 tons of coal, which is the amount of coal now consumed by the entire world. Now, if fifty per cent. of the power used to drive the first dynamo machine could be recovered from the second, and hence if the whole power of Niagara could be utilized, it might be distributed over the United States so as to give from that waterfall alone a power equal to the present entire mechanical force of the world, estimating that one-half the coal used is solely for mechanical purposes.

EXTREME VARIATIONS.—At Fort Benton, Montana, the records of the signal service show a range of 170 deg. in one year. Two years ago last summer it was 110 deg. above zero, and the following winter it was 60 deg. below.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the "Handy Binder" for binding the ANALYST, because of the following advantages: It is elegant in appearance, strong, durable, and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed, it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly-bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequalled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office during December, 1888, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

DEADLY SOAP.—A man in Topeka, Kan., recently met his death from a peculiar accident. A cake of soap with which he was washing slipped from his hand and striking a tumor on his leg caused a fatal hemorrhage.

BUSINESS NOTES.

BUFFALO LITHIA WATER A SOLVENT FOR URIC ACID CALCULI.

E. C. LAIRD, M. D., HAW RIVER, N. C., IN "MARYLAND MEDICAL JOURNAL" FOR NOVEMBER.

The relief afforded by Buffalo Lithia Water to a patient of mine, Col. H., of this place, a sufferer from renal calculi, is, I think, worthy of some record. The first of May last he came under my care subject to frequent attacks of nephritic colic. Except as to the usual treatment for the relief of present suffering, I put him exclusively upon Buffalo Lithia Water, Spring No. 2, under the influence of which he in a few weeks passed four calculi, weighing from two to three grains each, which was followed by a disappearance of symptoms. Notwithstanding, however, the continued use of the water, after a short interval there was a return of these attacks, with increase both of frequency and severity, when he made a visit to the Buffalo Lithia Springs, where he used the water six weeks with the following results: Ten days after arrival he began to discharge at intervals large quantities of calculi and sand, which continued for several weeks, and afterwards gradually diminished until at the expiration of the six weeks there was only occasionally, and barely perceptible upon minute examination, a slight sandy deposit in the urine. At the same time improvement in the general condition of the patient was very marked.

The amount of calculous matter discharged may safely be estimated at from one to one and a half ounces. Under microscopic examination it was evident, I think, that the calculi were originally parts of larger formations dissolved by the action of the water. Analysis made by Dr. S. F. Whaley, resident physician at the Springs and consulting physician in the case, showed it to be uric acid.

Six weeks have elapsed since he left the Springs. Use of the water continued. The urine is free from sediment and normal.

It is proper for me to add that I was in constant attendance upon Col. H. during his stay at the Springs.

A CONVENIENT CALENDAR AND STAND.

The most convenient, valuable and novel business, table or desk calendar for 1889 is the Columbia Bicycle Calendar issued by the Pope Mfg. Co., of Boston, Mass. It is in the form of a pad of 365 leaves, $5\frac{1}{8} \times 2\frac{3}{4}$ inches, with blanks for memoranda. The leaves are sewed at the ends, so that any entire leaf can be exposed whenever desired. The pad so rests upon a portable stand that the entire surface of each leaf is brought directly before the eye. The upper portion of the stand is made of pressed pulp, with "Columbia" in raised letters at the top, the whole handsomely gilded and practically indestructible. Besides the date and ample room for memoranda, upon each slip appear quotations pertaining to cycling, and about type-writing and stenography, with occasional mention of the new Becker type-writer. Although this is the fourth year of the calendar, the quotations are fresh and new, and the information would, if placed in book type, make a fair-sized volume.

AYER'S POLYGLOT ALMANAC.

We suspect that few, who hang their Ayer's Almanac on its accustomed nail, from year to year, have any idea of the vast number of these pamphlets issued annually by the publishers, J. C. Ayer & Co., of Lowell, Mass., manufacturers of the famous Ayer's remedies. We are assured that from thirteen to fourteen million copies of Ayer's Almanac, in as many as ten principal languages, are printed every year. To accomplish this stupendous work, the publishers use a machine which prints and folds, ready for the binder, a hundred thousand almanacs daily, turning off at the rate of a hundred and eighty books a minute, and consuming about twenty-five miles of paper each day! These astounding facts and figures are given in the preface to a neat volume of the almanac for 1889, consisting of specimen copies of the several editions in English and in nine other languages; also pages of pamphlets in eleven additional tongues. This book will, we have no doubt, be appreciated by many as a rare literary curiosity.

HORSFORD'S ACID PHOSPHATE.

BEWARE OF IMITATIONS.

Imitations and counterfeits have again appeared. Be sure that the word "HORSFORD'S" is on the wrapper. None are genuine without it.

LOOK OUT for Imitations and Substitutes OF *Horsford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

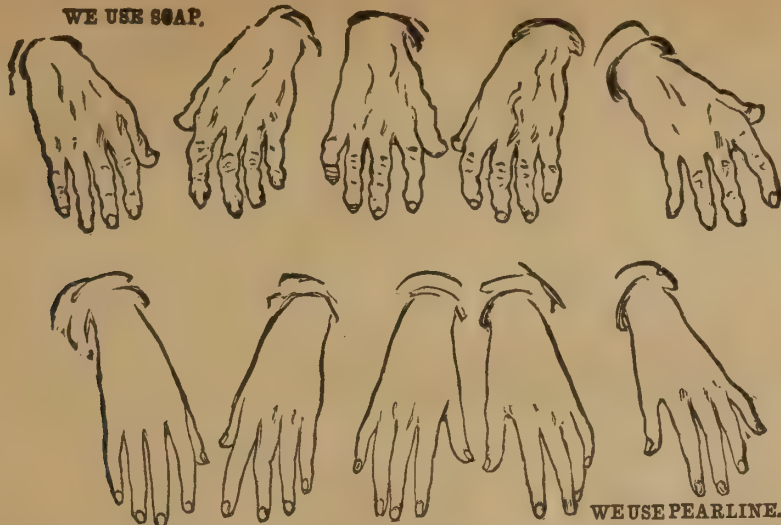
Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

WE USE SOAP.



WE USE PEARLINE.

DISTORTED HANDS will surely come to those who clean house and wash clothes in the old-fashioned way—with soap. How can it be otherwise? You rub—rub—rub, and you ache—ache—ache. You spend hours inhaling the hot steam and odors which rise from the tub, impregnated with the filth of soiled clothing, and with all this you have not obtained the best results.

WITH PEARLINE a delicate woman can do a large wash. You do not have to rub yourself and your clothes to pieces. You do not have to inhale fetid steam; when finished you are not too tired to see that your work is well and economically done, and that you have saved many hours of woman's hardest work.

JAMES PYLE'S PEARLINE is the modern soap. Beware of imitations.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.**NATRONA BI-CARBONATE OF SODA.**

(ABSOLUTELY PURE.)

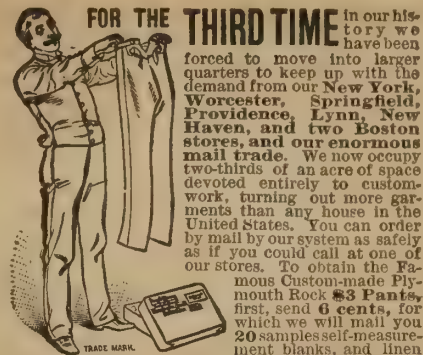


The nature of the raw material from which **NATRONA BI-CARBONATE OF SODA** is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making **BI-CARB. SODA** from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making **NATRONA BI-CARB.**; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render **NATRONA BI-CARB.** **NEARLY TASTELESS**, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of **CONSUMERS** of soda is specially called. They are **IMPORTANT**, and should influence both those who use and those who sell soda, to buy and sell **NONE BUT THE BEST**.

The **NATRONA BI-CARB. Soda** is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,**NATRONA CHEMICAL WORKS.****PHILADELPHIA, PA.****FOR THE THIRD TIME**

In our history we have been forced to move into larger quarters to keep up with the demand from our **New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade.** We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the famous Custom-made **Plymouth Rock \$3 Pants**, first, send **6 cents**, for which we will mail you **20 samples self-measurement blanks**, and linen tape measure, provided you **MENTION THIS PAPER**, or if you cannot wait for samples, tell us about the color preferred, with **waist, inside leg, and hip** measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. **Remember**, also, that we make to your order, Full Suits, \$13.25, Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES.—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.

LEA & PERRINS' SAUCE.

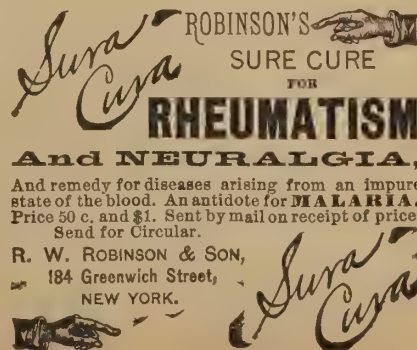
Lea & Perrins', the original and genuine Worcester-shire Sauce, has been before the public over a half a century. Like all popular favorites it has long been the standard of comparison and the pattern for counterfeiters who not being able to imitate its excellence offer to the public imitations in bottling, labels and style of putting up. They dare not counterfeit the signature of Lea & Perrins which is on the red label of every genuine bottle, and of which this is a facsimile.

To be sure of obtaining the genuine article, see that the above signature is on the label.

ALTHENE SKIN SOAP

An absolutely pure and perfect soap for all purposes of the toilet, nursery, bath or sick-room. Has the approval of leading chemists and physicians, and is recommended by all who have used it. Price 25 cts. a cake, or 65 cts. for a box of three. Can be obtained of the retail druggists or from

J. W. CAMPION & CO., 916 Filbert Street,
PHILADELPHIA.



UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS**SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.**

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.**

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.*Robert Gordon's*

TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO,—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,

In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

ESTABLISHED 1857.

J. H. CUTTER,

—OLD—

BOURBON AND RYE WHISKIES.

We are the Sole Owners and Proprietors of this Celebrated Brand of Whiskey.

C.P. MOORMAN & CO.**LOUISVILLE, KY.**

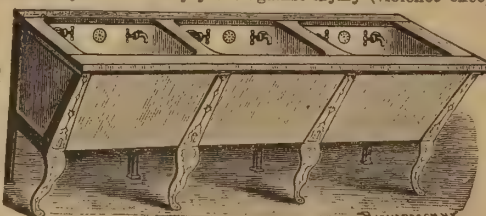
We Guarantee the Superior Quality and Absolute Purity of every Barrel of Whiskey sold by us under this Brand.

STEWART CERAMIC CO.,**312 PEARL ST., Cor. Peck Slip, NEW YORK.**

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.**VERY STRONG.**

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

COLDEN'S

ORIGINAL LABEL:

"Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator."

LIQUID**BEEF TONIC.**

AN INVALUABLE AID IN THE TREATMENT OF ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of **SOLUBLE CITRATE OF IRON**, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,**115 Fulton Street, N. Y.**

Please Mention the AMERICAN ANALYST.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT A SINGLE ADDITION.

MALTED MILK does not have to be cooked.**MALTED MILK** needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.**MALTED MILK** will not spoil in hot weather.**MALTED MILK** is always ready for immediate use night or day, when traveling or at home.**MALTED MILK** does away with the danger of using sour or impure milk.**MALTED MILK** is free from starch and cane sugar. All foods that have to be cooked contain starch.Ask your physician his opinion of **MALTED MILK**, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and family use, ... \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.**RACINE, WISCONSIN, U. S. A.**

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, Jr.

ESTABLISHED 1792.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York.

Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

PEACOCK'S BROMIDES

(SYR: BROM: COMP: PEACOCK)

NERVE SEDATIVE.

Each fluid drachm represents 15 grains of the Combined C. P. Bromides of Potassium, Sodium, Calcium, Ammonium and Lithium.

USES:—EPILEPSY, and all CONGESTIVE, CONVULSIVE, and REFLEX NEUROSES.

This preparation has stood the test of time and experience, and can be relied upon to produce results, which can not be obtained from the use of commercial bromide substitutes.

DOSE:—One to two FLUID drachms; in WATER, three or more times a day.

PEACOCK CHEMICAL CO., St. Louis.

THE TORSION**Braided Wire Mattress.**

At all times a thoroughly ventilated and perfectly clean mattress, it cannot absorb odors, or retain exhalations or disease germs.

D. HAYES AGNEW, M. D., Prof. of Surgery, University of Pennsylvania, says:

"The Torsion Braided Wire Pillow and Mattress I regard as superior to anything of the kind now in use; well suited for either private or hospital use.

Prof. WM. H. PANCOAST, late Professor of Anatomy, etc., in Jefferson Medical College, now Professor of Anatomy and Clinical Surgery in the Medico-Chirurgical College of Philadelphia Hospital Surgeons, says:

"I have used in my surgical practice your Braided Wire, in the form of mattresses, pillows for the head and body, and short pillows for the arm and leg when injured. I find them most admirable, cool and light, yet affording perfect and elastic support.

I have saved a patient from bed sores by the use of the Braided Wire mattress."

WM. H. FORD, President Board of Health, Philadelphia, says:

"I have used the Torsion Braided Wire Mattress with great satisfaction, it is light and therefore easily handled; it is elastic and very comfortable. The case can be easily removed to afford a complete airing, a feature of great importance from a health point of view, it is an invention of great usefulness.

For descriptive circular and price list, send to

The Torsion Braided Wire Upholstering Company,

1017 CHESTNUT ST., PHILA.

THE**VIBURNUM COMPOUND**

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

RIDGE'S FOOD

is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.



GOLD MEDAL, PARIS, 187
BAKER'S
Breakfast Cocoa.

Warranted *absolutely pure Cocoa*, from which the excess of Oil has been removed. It has *three times the strength* of Cocoa mixed with Starch, Arrowroot or Sugar, and is therefore far more economical, *costing less than one cent a cup*. It is delicious, nourishing, strengthening, easily digested, and admirably adapted for invalids as well as for persons in health.

Sold by Grocers everywhere.

W. BAKER & CO., Dorchester, Mass.

CALIFORNIA**Fine Table Wines**

From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }

HORTON, CATO & CO.'S**"ROYAL" SALAD DRESSING.**

The best prepared Dressing, always fresh, does not turn oily, rancid or decompose as other dressings of a similar nature.

"ROYAL" WORCESTERSHIRE SAUCE,

The Peer of American Product.

HORTON, CATO & CO.,

SOLE PROPRIETORS AND MANUFACTURERS,
DETROIT, MICH.

SCOTT'S EMULSION

OF PURE COD LIVER OIL WITH

HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects.

Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and receives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—unequalled by any single or combined remedy in existence. The rapidity with which delicate children fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In dyspepsia and loss of appetite its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis and other wasting diseases, Nervous Prostration, Constipation, Inanition, Malnutrition, Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.

Acidi Phosphorici aa, grains, ss.

Antipyrin.

Ext. Apii. Grav. dulc. (Celery), aa grains, j.

Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in *Headaches, Neuralgia, Insomnia, Neurasthenia and general Nervous Irritability*, are not due to the effect of any one ingredient, but the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

LEPAGE'S
THE ONLY GENUINE
LIQUID GLUE

SOMETHING NEW
THE PATENT
ADJUSTABLE BRUSH.

THEY STRONGEST
GLUE
IN THE WORLD.
2 GOLD MEDALS
LONDON 1883. NEW ORLEANS 1885.
RUSSIA CEMENT CO.
Gloucester, Mass.

Used by thousands of first-class mechanics and by such manufacturers as Pullman Palace Car Co., Mason & Hamlin Organ and Piano Co., &c., &c.

Repairs Everything.
Its success has brought a lot of imitators copying us in every way possible. Remember that THE ONLY GENUINE LePage's Liquid Glue is manufactured solely by the **RUSSIA CEMENT CO.** GLOUCESTER, MASS.

Send 10c. and dealers' card who doesn't keep it in stock, for sample.

Patent Pocket Can. No waste.

Autograph below is on every Patent Can.

Russia Cement Co.



Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for Dyspepsia, Diabetes, Debility & Children's Food. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES**, Props., Watertown, N.Y.

ARMOUR & CO.

CHICAGO, ILLS.

PACKERS OF

Pork and Beef Products

CANNED MEATS,

ETC.,

FOR HOME CONSUMPTION AND FOR EXPORT

TO ALL PARTS OF THE WORLD.

Also,

SHIPPER OF

Choice Pressed Beef,

MUTTON AND HOGS,

In Refrigerator Cars,
To BOSTON,

NEW YORK,

PHILADELPHIA,

BALTIMORE,

And other cities throughout the country.



BEST IN THE WORLD.



W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88

North Moore Street, New York.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

SWIFT'S

Choice Chicago Dressed Beef

— AND —

MUTTON.

CAN be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is retailed by all first class butchers.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the public may rest assured that in purchasing our meat from dealers they will always receive the best.

SWIFT AND COMPANY,
UNION STOCK YARDS,
CHICAGO, ILLS.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans. PRICE BAKING POWDER CO. NEW YORK. CHICAGO, ST. LOUIS.



MADE FROM
99.50% PURE CREAM TARTAR.
This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.
STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"GOOD MORNING" COFFEE PERCOLATOR.

RICHEST, PUREST, BEST
CUP OF COFFEE
EVER MADE.

ARE YOU A
GOOD JUDGE
OF COFFEE?

SIMPLEST AND
QUICKEST PROCESS.

RETAINS THE FULL STRENGTH
AND AROMA, BUT HAS
NO BITTER TASTE.

ONE
POUND
OF
COFFEE
WILL GO
TWICE AS FAR
AS BY
ANY ORDINARY
METHOD.

FOR SALE BY
THE TRADE.



IF YOU CANNOT PROCURE IT IN YOUR TOWN,
WRITE TO
MANNING, BOWMAN & CO.
57 Beekman St., New York.
Circulars and Price List sent Free
on Application.

"BILLET"

are

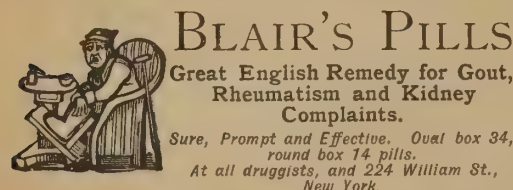
Carefully Selected

French Sardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.



For sale by all stationers.
THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.



OPIUM AND LIQUOR HABIT CURED.

WE solicit an investigation of our system and methods, and will gladly send to any one very interesting matter on the OPIUM HABIT, DRUNKENNESS and their effects and cure. Physicians specially invited to examine, and if desirous of trying our remedies, liberal arrangements will be made with them.

THE LESLIE E. KEELEY CO., Dwight, Illinois.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. CO., 52 and 54 Park Place, New York City.

ESTABLISHED 1872.

GELATINE

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

Quiet that Baby

by giving it such food as will produce bone and muscle. Many children are peevish owing to poor nourishment.

RIDGE'S FOOD

is undoubtedly the best of the many foods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 2.

NEW YORK, THURSDAY, JANUARY 10, 1889.

WHOLE No. 98.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CONTENTS.

Beef, What It Costs.....	18
Bogus Eggs.....	19
Brie Cheese.....	18
Domestic Dietetics.....	20
Dressed Beef Trade.....	15
Editorials.....	13
The Electric Sugar Refining Collapse; A Useful Caution; Quantity Rather Than Quality; Consanguineous Marriages; A Railroad Prediction.	
Fruit, Dried To Cook.....	17
Glossary of Microbes.....	18
Home, A Perfect.....	17
Intemperate Temperance.....	17
Knickerbocker New Year's Day.....	17
Nothing Lost.....	19
Olives.....	18
Poisons, Organic.....	19
Prudent Foresight.....	20
Russian Signs.....	20
Scientific Paradoxes.....	14
Stable Nuisances Remedied.....	20
Snow, Sanitary.....	19
Tights, Danger of.....	19
Tomatoes.....	18
Whale's Milk.....	19

THE ELECTRIC SUGAR REFINING COLLAPSE.

The collapse last week of the famous Electric Sugar Refining Company furnished a forcible illustration of the ease with which the public can be gulled by any plausible scheme for making money based upon the operation of mysterious forces. Capital having familiarized itself with all the natural avenues to profit, turns cautiously aside from them as being too narrow or already too crowded and plunges blindly into unknown paths in search of miracles. The eager desire to be the first in the field has a singular power to overcome business shrewdness gained by hard experience of fortune's fickle ways, and the savings of years are thus often invested in enterprises whose sole attraction, apparently, is the expectation of accomplishing the impossible. In the endeavor to make something out of nothing weak humanity is incessantly striving to assert the privileges of divinity. The application of electricity to sugar refining was introduced to public attention in this city about four years ago by a German

named Freund, who claimed to have discovered the process, but refused to impart the secret. The wily Teuton would take the inquirers into a room where there stood a barrel of raw sugar and a partially concealed electrical apparatus, and then causing them to withdraw from the apartment, would in the course of ten minutes re-introduce them and show them in the place of the raw sugar an empty barrel and a sample of beautifully granulated refined sugar. Gradually the bait took, and about a year ago a company was organized with a capital of one million dollars, the stock of which was bought with avidity here and in England, at prices ranging from \$200 to \$625 a share, the par value of which was \$100. Valuable property was purchased and arrangements were made for conducting the business on an extensive scale. But the time at length came when, according to the contract, the inventor was to reveal his secret to the investors. Freund died last spring but his widow held half the stock and the key to the valuable mystery. It turned out however that there was no mystery, and no key was needed other than that which unlocked the room in which the disgusted officers found all the raw sugar that had been purchased for refining, still in the same condition as when carried there, together with a quantity of refined sugar which had been used to furnish samples of the work done by the new "process." The disenchantment was instantaneous and complete. Upwards of a million dollars are estimated to have been sunk in this rainbow chase in order to afford a fresh verification of the adage regarding the fool and his money. That the electric method of sugar refining was a blind humbug from the outset was patent to all except the unlucky visionaries who wasted their money in it. Its fallacy was exposed three years ago by the AMERICAN ANALYST, in the subjoined article, which we reprint from our issue of December 1st, 1885:

It may be possible to cleanse and purify the crystals of raw sugar, eliminate the dirt, evaporate the moisture, and re-crystallize what has always been supposed was the uncrystallizable residuum of raw sugar by the application of the electric battery, but the majority of intelligent men have not yet reached that stage of advanced scientific intelligence that admits of their comprehending the probability of such an invention. It may be that the process of refining sugar that now occupies from twenty-four to forty-eight hours for its completion, and is the result of years of study and investigation, is all wrong, but there are a great many men in the world who are stubborn enough to believe that it is more nearly right than the vague and altogether incomprehensible claims of an adventurer. The sugar industry may be on the point of being crushed out of existence by this discovery, but those whose interests are at stake appear to contemplate their destruction with calm indifference. A French journal of science says that if this man can simply produce electricity at the cost he claims he has made the greatest discovery of modern science, let alone his attempt to refine sugar by the aid of the battery. Notwithstanding the fact that the inventor of this alleged process failed in his efforts to enlist capital in New York City, where, as before stated, the matter was investigated by a committee of experts, who pronounced it impracticable, he has, it seems, been more successful in England, where, it is said, a joint stock company has been formed for manufacturing refined sugar by the "electrical" process. Despite the asserted

caution of Englishmen, their country appears to offer a tempting field for American speculators and cranks. Hamlet was sent to England because he was mad, for the reason, as the grave digger says, in that tragedy, "T'will not be seen in him; there the men are as mad as he." The success of the inventor of the electric sugar refining process would lead one to believe that some, at least, of the descendants of Shakespeare's contemporaries retain the peculiarities of their ancestors. In view of what has followed from the visit of this extraordinary inventor to Great Britain, we shall not be surprised to hear of the departure of Mr. Keely, of "motor" fame, in the same direction. The latter gentleman has, according to his own statement, been on the eve of revolutionizing the science of applied mechanics any time these ten years; but, somehow or other, just as he is about to startle the country by making his invention public, a mysterious breakage of machinery unfortunately occurs—which also shatters the hopes of his confiding stockholders. It is to be feared that a similar disappointment awaits British investors in the electric sugar refining process.

A USEFUL CAUTION.

The *Sanitary News* calls attention to the fact that a postage stamp may in various ways convey contagion. One of the simplest and most plausible is that in which a postage stamp, partially attached to a letter to pay return postage is sent by a person infected with some disease to another person. The disease is transferred in the first place to the adhesive stamp through the saliva, and in being attached to the letter by the receiver the poison may be transmitted to him in turn through the saliva. Another cause may be the infection of the stamp with disease germs. The stamp, having been exposed in a room where a diseased person lies, may become slightly moistened and thus retain the germ. That this is true can be proved very simply by a microscopical examination. We often see a person holding change for a moment in the mouth, probably not knowing that investigation has shown that disease germs can be carried by money. If one could see through what hands the money has passed he would hesitate before using such a third hand. Silver money is as bad as paper money, but while many would hesitate to hold a dirty bank note in their mouth, they think that a silver piece, because bright, is probably clean.

QUANTITY RATHER THAN QUALITY.

The Minnesota State Board of Health has recently published its annual report, containing some interesting facts in relation to the prevalence of adulteration in food products. Commenting upon the report, the *Northwest Trade* of Minneapolis sets forth some philosophical news respecting the cause of the adulteration evil, the substance of which we reproduce. We must, however, in fairness confess that we cannot follow the argument to the precise conclusion our contemporary arrives at. Allowing the public to satisfy its desire to have the best of everything would not, we fancy, prevent greedy dishonesty from interjecting sophistications into the market, whereby larger profits might be real-

ized. The great difficulty in the premises lies more in the weakness of human nature than in the defectiveness of social institutions. All over the country, says the paper referred to, where food laws have not been enforced to check adulteration, the trick of mixing and deceiving the stomach has extended to every article in which it can be profitably practised. People should think a little before ascribing the cause of adulteration to the grocer or manufacturer. Were there no demand for such sophisticated food, no manufacturer would make and no grocer would sell it. But what has given the demand for adulterated food such an impetus? Without doubt, it is due to the high cost of living, and the combination among manufacturers to force up prices above the real value of the necessities of life. The difficulty of getting food commensurate with the labor exchanged for it is out of proportion. While rents, fuel and other necessities are so high the average human being is forced to economize somewhere, and the easiest place is found to be in those things which he puts into his stomach or in the goods which he puts on his back. Shame on it, that we must say that in the United States of America, the most prosperous country in the world, the majority of people must ask more for quantity than they do for quality. Instead of going to the root of the evil that makes such conditions possible, the attempt is made to put a plaster over the sore by passing laws making adulteration a crime. This is preventing rank weeds from growing by lopping off their tops. Let us root them out of the soil. This can only be done by sweeping away every hindrance that interferes with the natural law of supply and demand; by permitting every one to have the fruits of his labor; by granting to every one exact justice, and by not permitting a few to monopolize our natural resources out of which wealth comes. The majority of people want the best they can get, and were they allowed to freely satisfy their desires, the era of sophisticated food and shoddy clothing would come to an end. No quantity of severe laws filling our statute books will prevent the weeds growing.

CONSANGUINEOUS MARRIAGES.

At the annual meeting of the Mississippi Valley Medical Association in St. Louis last September, a paper by Dr. McKee, of Cincinnati, was read on "Consanguinity in Marriage." The alleged evils growing out of the marriage of relatives, however distant, have furnished a fruitful theme for social philosophers for many years, but the extreme views they advocate encounter an occasional check when common sense is brought to bear on the subject in the place of theoretical pre-judgment. Dr. McKee reasons that man being anatomically, physiologically and sexually an animal, he is subject to the same laws. It is well known, he proceeds, that in-and-in breeding is done by cunning breeders to improve the stock and put money into their pockets. The Jersey cattle have been bred for the past 150 years on a small island six by eleven miles. We

would not raise them for beef and oxen, yet they command a high price for their milk and butter. This was probably the recommendation of the first cattle on the island, and this quality has improved from time to time through in-and-in breeding. The ludicrous is approached when we enumerate the half a hundred abnormalities, among others whooping cough, which are ascribed to consanguineous marriages. We find certain factors leading to consanguineous marriages, viz., portions of country geographically isolated by mountains or sea, rendering communication with the outside world difficult; religious or political sects of an exclusive nature, and aristocratic ideas of position and wealth. As examples, note the percentage in Scotland, Martha's Vineyard, the Commune of Batz, and among the Jews and Quakers. The facts deduced by a careful study of the subject do not warrant us in supposing that the troubles complained of are a specific degenerative effect caused *ipso facto* by consanguinity. It would be better for the offspring were consanguineous marriage under medical supervision, but certainly no better than for all marriages to be under like supervision. We are warranted in concluding that consanguineous marriages, no other objection being present, should not be opposed upon physiological grounds.

A RAILROAD PREDICTION.

A railroad official who has given the subject a great deal of careful study says but two alternatives are presented to this country in making its future railroad history, viz.: either a radical amendment to the Interstate Commerce Law, or the gradual bankruptcy of all weak corporations and their absorption by the strong, until the whole land is divided up into railroad districts, all roads in each district to be controlled absolutely by one management. In one of these ways only he believes can the intricate problem presented by the long and short haul clause be solved.

SCIENTIFIC PARADOXES.

CURIOUS FACTS ABOUT ARTICLES OF COMMON OCCURRENCE.

The water which drowns us, a fluent stream, can be walked upon as ice. The bullet, which, when fired from a musket, carries death, will be harmless if ground to dust before being fired. The crystallized part of the oil of roses, so grateful in its fragrance—a solid at ordinary temperatures, though readily volatile—is a compound substance, containing exactly the same elements and in exactly the same proportions, as the gas with which we light our streets. The tea which we daily drink, with benefit and pleasure, produces palpitations, nervous tremblings, and even paralysis, if taken to excess; yet the peculiar organic agent called theine, to which tea owes its qualities, may be taken by itself (as theine, not as tea,) without any appreciable effect. The

water which will allay our burning thirst augments it when congealed into snow; so it is stated by explorers of the Arctic regions that the natives "prefer enduring the utmost extremity of thirst rather than attempt to remove it by eating snow." Yet if the snow be melted it becomes drinkable water. Nevertheless, although, if melted before entering the mouth it assuages thirst like other water, when melted in the mouth it has the opposite effect. To render this paradox more striking we have only to remember that ice, which melts more slowly in the mouth, is very efficient in allaying thirst.

TO THE PUBLIC.

We sincerely regret our publication of Dr. E. T. DARBY's endorsement of Dr. Mason's Combination Tooth Pick; as we now learn that his expressions were intended only for the private inspection of the inventor.

HORSEY MFG. CO., Utica, N. Y.
Manufacturers of the Celebrated



HARTFORD'S PROMINENT PHYSICIAN,

Dr. E. W. KELLOGG, expresses his appreciation, as follows:

"It is my opinion that from a hygienic point of view, the Ideal Felt Tooth Polisher offers decided advantages over the former methods of caring for the teeth; and as a beautifier of them it is unrivalled."

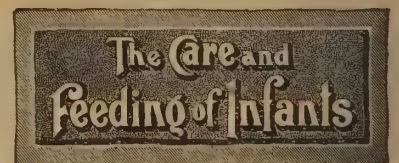
Prices:—Tooth Picks, 10c. per Case. Felt Polishers, 18 boxed, 25c. Holders for same, in bone, horn or celluloid, imperishable and attractive, 35c. **For Sale by all druggists, or mailed on receipt of price by**

HORSEY MFG. CO., Utica, N. Y.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.



THE DRESSED BEEF TRADE.

IT IS ESSENTIALLY OF CHICAGO ORIGIN.

Rewritten from the Drovers Journal.

Of the numerous enterprises that have had their origin and subsequent development in Chicago, perhaps there is none that is so clearly and indisputably a Chicago product as the dressed beef trade.

That the business is purely and legitimately American in its conception, prosecution and fulfillment can be readily inferred from every feature and characteristic that mark its operations at every stage, and also from the deservedly exalted rank it has taken in the commercial records of the nation.

That such results are directly attributable to Chicago's many natural advantages is undeniable, but nevertheless there are other causes which have led to the splendid success of the Chicago dressed-beef trade, and which should properly find mention in an article of this nature. The men who undertook to send to the epicurean East the primeest beefs of the "wild" West, in a condition ready for use and consumption, instead of on the hoof, were men whose reputations for bold enterprise and successful achievement were already universal, and the colossal proportions and widely-spread popularity of one of Chicago's foremost industries sufficiently attest that the metropolis of the West was again fortunate in having the development of one of her most prolific resources fall into the hands of men who, in their business career, knew no such word as "fail."

The Union Stock Yards Company also materially assisted the growth of the dressed beef trade at this point by the care and promptitude with which they provided accommodation for the rapid expansion in this branch of the live stock business, and so perfect have become the facilities at the Union Stock Yards for handling large numbers of cattle, that the ranchman on the plains and the farmer in the States think only of Chicago as the best market for their stock, where demand is never lacking, where competition is always keen, and where capital is unlimited.

To thoroughly describe the working of the dressed beef trade as conducted at the Union Stock Yards, it is necessary to begin with the receipt and handling of the cattle used in that business.

There are ninety-one fully organized commission firms doing business at the Stock Yards engaged in the receiving, handling and selling of live stock. It is a low estimate to state that each firm has attached to their office at least one man who has a separate connection of his own in the country and whose correspondence, etc., is quite independent of the firm to which he is attached.

Formerly cattle of every grade were carried in the old square boxes called cattle cars, into which the ani-

mals were crowded without any regard for bruise, breakage or even death. To-day, happily, that inhuman system is changed to a great extent, and the "Palace" car and "Stable" car have replaced the old square box monstrosity, especially in the carrying of the best grades of cattle.

Singularly enough in this connection, we discovered a very significant fact that argues strongly in favor of the shipping of the beef dressed as against shipping the cattle alive to the Eastern markets.

One "stable" car line has fourteen hundred cars running over Western roads from points in the West and Southwest hauling cattle to Chicago, while at the same time they have less than one hundred cars running from Chicago to points in the East.

Western shippers, and especially the big ranchmen, are the most regular patrons of the "stable" car as they find that they save enough by the lighter shrinkage of the cattle in transit together with the substantial gain in the superior condition of their stock on arrival at market, to more than pay for the extra cost of the "stable" car over the common cattle car. The "stable" cars are thirty-six feet long and eight feet four inches wide on the inside, with portable partitions dividing the car into three compartments. Each car is furnished with hay racks and water troughs, the former are filled with hay at point of embarkation and the latter are supplied with water at regular watering stations on the route. There is no crowding. The "stable" car generally contains 18 to 20 steers, usually of the best grades, such as are technically known to the trade as "dressed beef," "shippers" and "exporters."

On being unloaded these cattle are handled with the utmost care by the Stock Yard Company's employees and the cattle brokers' men, who are on hand to receive them. One rarely sees the "scrub" class or low-grade cattle arrive in any other but the common cattle car. Attention seems to be chiefly devoted to getting the higher priced and better grades to market in the best condition possible, and it is astonishing to see the huge prize-winners from the plains come to hand after a long trip in the stable-car looking as fresh and with almost as much of the bloom of the country on him as when he left the range.

Right here the question naturally suggests itself: Is it not better to have these animals killed here in their present fine condition than after they had stood the market here and been shipped 1,000 miles further east with all the fever and fatigue of travel and other unavoidable hardships consequent thereon? Common sense would seem to dictate the affirmative in reply.

From the platform where the cars are unloaded the cattle are driven to the pens located in the division of the yards to which they belong by virtue of the road that brought them in. The commission merchant orders them fed and watered, and places them on sale under the most advantageous surroundings his experience can devise.

There are four firms at the Stock Yards engaged in the dressed beef business. They are Armour & Co., Swift & Co., the Hammond Co. and Nelson Morris.

Armour is represented on the yards by seven cattle buyers and five weighers. Swift has six buyers and five men to catch weights, Hammond has three buyers and two men to see after the weighing, and Morris employs four buyers and four weighers.

The buyers here referred to are supposed to know exactly the requirements of the houses they represent, and in the course of the day's trading have to reject a good many animals that are not, for various reasons, suitable to their wants. They are particularly careful to reject any "unmerchantable," "crippled" or "diseased" animal that may, perchance, happen to be in the drove, and very frequently have to assort out and reject animals of inferior quality that are not up to the grade their orders call for.

A stranger cannot fail to observe that much as the buyers may "banter" and "dicker" over the price, there still appears to be less anxiety about that part of

the deal than about the suitability and quality of the drove they are negotiating for, and it not infrequently happens that a buyer will leave a drove of cattle that he had spent considerable time in trying to purchase simply because he fails to get privilege from the salesman to assort them to the extent he considers necessary to fit them for his orders.

There is invariably a "weigher" in attendance on each buyer, so that when the latter makes a purchase the former is on hand to follow the cattle to the scale, where they undergo a further scrutiny from him previous to being weighed. Everything being found satisfactory, the cattle pass on to the scale, are weighed, and from thenceforth are the property of the packer, to be driven with many more later in the day over the viaduct to the slaughter-house.

Under the authority of the Health Department of the city, the inspection at the Stock Yards is very rigid. The staff comprises three officers of whom we will make this passing mention, to show their eminent fitness for their official positions by stating that each one of them is by trade a practical butcher, and the knowledge acquired in that calling, combined with untiring zeal in the performance of their duties, constitute a sanitary inspection corps that any city might well feel assured was perfectly capable of taking care of the animal food supply of its citizens.

It is no exaggeration to say that a more redoubtable barrier against the invasion of the Stock Yards by any "diseased," unthrifty or undesirable animals than this trio it would be difficult to find. They are almost ubiquitous while on the "warpath"; and any animal not fit for the food of man finds swift condemnation at their hands.

The Illinois Humane Society has also an officer stationed here, and since his advent on the yards many cruelties to animals and other barbarous practices have been abated. The "prod-pole" has been almost totally discarded, so that a driver wishing to urge his steers to greater haste has to do so with some more humane though less persuasive weapon. In this connection it is proper to state that some two years ago both Messrs. Swift and Armour sent into the country in several parts of the West on a mission to stop, as far as possible, the use of the "prod-pole" by having offenders of this class arrested wherever they found cause to do so. The crusade was productive of many beneficial results.

Following up our description of the *modus operandi* of the dressed-beef business, the slaughter-house will next be the scene of our investigations, and for the first time since our hitherto pleasing task began, we find ourselves on what is very germane to our subject, "the horns of a—dilemma." Which of the great beef-houses shall we visit? All are typical houses and emblematic of Chicago enterprise in every respect; so it may be set down that having seen one you have seen all the houses in the business; but as what is considered by priority the best "show" house in the Yards is close at hand, we will make it the field of our deliberations.

Approaching the cattle pens in which were corralled the doomed bovines, awaiting the attentions of the "Knights of the Knife and Steel," one would be led to suppose that a fire in this part of the building was being fought by a small gang of men who worked at a large hose, but no such casualty had taken place, the *soi-disant* firemen were simply giving the steers their customary cold-water bath to cool them off preparatory to being slaughtered. This introductory preparation, simple as it may seem, has been found a very effectual method of cooling down any heated temperature of the cattle from the weather, natural excitement or any other cause, and for getting them in the best possible condition for killing, though of course this treatment is only used in hot weather.

Generally the first timid feeling experienced upon entering one of these monster slaughtering establishments gives place to one of admiration of the perfect system that prevails in the midst of what seems the most chaotic surroundings. Small armies of skilled and

unskilled employes work with almost as much purpose and regularity as men under military discipline; and of such an awfully impressive character is the scene presented by a vast abattoir in full blast, with its countless multitude of brawny men who participate in various ways, under skilled direction, in the wholesale slaughter that is going on, that one carries the remembrance of it vividly in his mind when all else that was curious and interesting are forgotten.

In rotation and by sure stages through a long line of pens, the cattle approach the fatal "felling" pen, where they are despatched with lightning rapidity by a man who handles the rifle with the unerring aim of an Indian scout, or the spear with the dexterity and precision of a Cosack lancer.

The lifeless monster of the plain is next hauled from the "felling" pen out on to the floor or "skinning bed," where he is bled, the head severed from the body, and the body hoisted by the hind legs to the iron "runs" or "rails" overhead, where it is allowed to hang for at least ten to fifteen minutes, to give the blood every chance to drain from the body.

Here it may be remarked that this system of bleeding differs radically from the method in vogue formerly, when the animal was bled and allowed to lie on the floor until at least half the skinning and other parts of the work of "dressing" was done. Whatever probability there was of coagulation taking place in the veins of the dead animal under the old system, there is no possibility at all of it occurring with the plan adopted at the dressed-beef slaughter-houses where the body is hoisted while the circulation is hot and active, with all the principal arteries cut at the throat to accelerate the downward flow of the crimson torrent. The body is again lowered to the floor, the entrails removed, the bullock "sided" (i. e., the sides skinned with a long, peculiar, free sweep of the knife, requiring much skill), and again hoisted to the "runs." The hide is next "dropped," and the carcass thoroughly washed on the inside and wiped down on the "flesh" or outside with a clean, dry cloth, which is used with a tenderness in the hands of the butcher suggestive of unusual attention to this particular part of his work, for it is at this stage that the genuine butcher considers he is really "dressing his bullock." All his mechanical pride is aroused instinctively by the quality and proportions of the noble "critter" that hangs before him, and his ambition leads him to put on the numerous little touches of the "flesher's craft" that produce a picture in "pink and white" on the carcass of beef as it hangs on the "runs." As soon as the artistic work is finished on it, the carcass is "cleft in twain" and run into the cooling room, where it remains from thirty-six to forty-eight hours if heavy and twenty-four hours if it be light weight. It might be stated here that once the carcass of beef leaves the hands of the butcher and enters the cooling room, it travels on wheels on the iron "runners," and can be switched to any part of the establishment on this "elevated railway" by an ingeniously contrived system of switches, thus obviating the necessity of handling the beef only as little as possible when "toting" it from one department to another.

The cooling rooms devoted to the exclusive use of the shipping beef are four in number, each measuring 120 feet square, and has a capacity of 900 carcasses, or a total of 3,600 for the four rooms. Though the cooling rooms will each contain snugly 900 dressed cattle, the management does not consider it wise to crowd them to their utmost capacity, and therefore generally hang between 600 and 700 carcasses in each room, thereby allowing a freer circulation of air.

The temperature of the cooling rooms and the refrigerator cars is kept as nearly equal as possible at 36 to 30 degrees, and by this steady, uniform temperature, the best results are obtained.

The entire establishment is lighted by electricity, and the effect of the brilliant light on the rosy-tinted, healthy-looking, well "mixed" and "marbled" beef on the varnished woodwork, on the brightly shining

hooks and other "tinned" ironwork, and on the evenly laid "carpet" of deal sawdust, which softens at one and the same time the sharp rays of the electric light and the elastic tread of the white-frosted operatives, make a picture of cleanliness and order that would captivate the heart of a New England housewife.

Between the cooling rooms and the platform where the refrigerator cars are drawn up, there is a shipping room. The beef that is ready for shipment is run out into this apartment, where it is weighed, quartered and inspected. This room should be called the "custom house," for the inspection here is very rigid; the inspector exercises the keenest judgment on every individual quarter, so that anything showing the least blemish shall not be permitted to pass out to the refrigerator car.

The refrigerator car is 29 feet long and 8 feet 2 inches wide on the inside. It is 7 feet 4 inches from the floor to the cross bars on which the hooks hang, and 1 foot 2 inches above the cross bars to the roof of the car, this latter space admitting of an uninterrupted current of air. The car is supplied with galvanized iron tanks at each end. These tanks are filled from the outside through small "hatchways" in the roof with a mixture of "pounded" ice and coarse salt. The tanks thus filled quickly become cold and create a temperature of 36 to 38 degrees in the closed car. The chilling influence of the tanks forces a circulation in which the heavier cold air descends and displaces the lighter and warmer current, which naturally ascends and becomes again chilled to a much lower temperature by contact with the tanks. By this process the air in the refrigerator car becomes rarefied, and, therefore, is the best means known to natural law to eliminate moisture from meat and leave the fibrous substance in a condition to "keep" and improve it in its digestible qualities by the "keeping."

For confirmation of this theory one has only to refer to the custom prevalent in some of the Western States of preserving beef by "jerking" or drying in the dry atmosphere of the altitudinous regions where it is practised. And again, in this connection, it is a noteworthy fact, that at Denver, Colorado, a quarter of beef on being hung out of doors and exposed to the action of the atmosphere will "shrink" 10 lbs. in twenty-four hours, or at the rate of 40 lbs. to the carcass.

To the uninitiated in the scientific principles of the system, the foregoing cases will convey an intelligent understanding of the principle on which the dressed beef refrigerator car is operated, and if one were disposed to still further follow the comparison, he would find analogy enough to satisfy the most sceptic, in the fact that the two cases above cited, the beef is dried and preserved solely and simply by the action of dry rarefied air and by identically the same means. Without the aid of chemical or other doubtful agencies, the beef is cooled and preserved in the refrigerator car.

Between the "ice-box" that flourished some few years ago and the splendidly equipped refrigerator car of the present day "comparisons are odious," in fact there is no comparison. The plan of the former ice-box was to smother the meat in ice. That idea might do well enough to work on at Nova Zembla, but the Chicago dressed beef man has a refrigerator car modeled on nature's laws, in which the meat cannot come in contact with the ice by any possible change, and consequently is never moist, but always dry and cool, and ripens every hour it is in transit to the Eastern market.

The refrigerator car when loaded contains from thirty to thirty-three carcasses of selected beef, averaging about 650 pounds each, or equal to twenty thousand to twenty-one thousand pounds. The hind quarters are all hung in one end of the car and the forequarters in the other, presenting the appearance of what a professional stevedore would enthusiastically call a "well-trimmed cargo."

The cars are iced the day before shipping and re-

filled just before loading, and re-iced every twenty-four hours at regular stations on the journey east.

Better than volumes of descriptive information to eastern people would be the examination of a Chicago dressed beef car on its arrival at the point of destination. It would furnish them with a subject for study for more than the traditional nine days, and perhaps would set them thinking like the Auburnites while contemplating Goldsmith's "Village Schoolmaster,"

"And still they gazed, and still the wonder grew."

It would certainly be a revelation to them, for there can be no doubt whatever that the manner of handling dressed beef by the firms who are engaged in it in Chicago, is a triumph of modern science in its application to the improvement of the food of the people. Experiments have proved that this beef will keep sweet from two to three weeks under passably favorable circumstances, and will eat better during or at the expiration of that time than meat killed and eaten within a couple of days.

When the cars return empty they are side-tracked at the packing house and there undergo a scrubbing and cleaning with boiling hot water until they look new again. The hooks being "tinned" instead of galvanized, are also washed, polished and brightened. All other iron work in the interior of the car is washed and thoroughly dried, and finally the car is allowed to stand twenty-four hours with the doors open, so that it will be perfectly aired preparatory to being again loaded for the eastern market.

Having shown how the beef is prepared and how the faultless machinery for handling it is operated, it is proper to explain the mode of distributing it in the east. There are agencies or depots for raising and distributing the beef located at numerous points through the Eastern States, including all the large cities as well as cities and towns of smaller size and less importance. These depots are constructed and "run" on principles the exact duplicate of the present houses at Chicago. The beef is sold and distributed through the surrounding country, until every town and village in the district that is at all accessible, either by wagon, road or rail, is well supplied with Chicago dressed beef. It is not claiming too much to say that by a system so far reaching in aim, so progressive in management and so aggressive in commercial spirit, the prime beef produced in Western America is placed within the reach of all in better condition and at less cost than the most sanguine economist dared hope for before the introduction of improved machinery into what was indeed a very crude business.

In the pineries, the fisheries and the collieries, where "pork and molasses" held sway, the bill of fare has undergone a decided change, and no one will deny that the change is for the better by a "large majority."

In the places named the old relics of pioneer days—"pork and molasses" and "hog and hominy"—have given place to "beef and butterine," and in the great manufacturing centres the unskilled laborer and the artisan have become so habituated to the use of good beef, that one can imagine them giving vocal expression to their preferences in the words of the Englishman who sang:

"My dame likes her puddings,
My boys like their pies,
But I like my dinner of beef."

Statistics show that the number of hogs killed in the west has decreased in two years, one million seven hundred thousand, whereas the increase in the number of cattle killed has been proportionately as great, and most assuredly to shut off the dressed beef trade to-day would ruin the ranch and great cattle growing interests of the west.

The week ending Sept. 22, 1888, there was received at the Union Stock Yards 71,300 head of cattle—it was the banner week for receipts—and the four dressed beef firms, Swift, Morris, Armour and Hammond, took two-thirds of the total receipts, and still they were like Dickens' Oliver, "asking for more."

The conclusions to be drawn from the foregoing are as follows: First, that the Chicago dressed beef shipper uses every endeavor to get the best material for his trade that money and trained judgment can obtain. Secondly, that he takes every precaution that untiring vigilance can suggest to exclude from the make up of his goods anything open to the least suspicion of unfitness, and lastly, that he literally "shuts his eyes on expenses" in his determination to keep Chicago dressed beef where he has placed it to stay—in front and without a rival.

MICHAEL FOSTER.

TO COOK DRIED FRUIT.

SOME SIMPLE HINTS DESERVING OF ATTENTION.

It may seem like a broad, sweeping assertion when we state that nine out of every ten persons who undertake to cook dried fruit make a positive failure. The usual method followed is a very poor one, that of selecting the fruit to be eaten at lunch, dinner or tea, two or three hours prior to using it, rinsing it in a little water, then placing it in water and allowing it to remain to soak for two or three hours only, then pouring off the water in which the fruit was soaked and applying fresh water, putting it on the stove and cooking it thoroughly. Such a manipulation as this is calculated to produce the poorest possible result, if it does not actually ruin the fruit. Many people consider dried fruits hardly worthy of their time and attention from the fact that after repeated trials they find so little of value—the fruit having lost its original flavor, is tasteless and not at all palatable. If the following method for cooking dried fruit is followed, a directly opposite result will be realized. Select the fruit that you intend to use, rinse it thoroughly in clean, clear water, then place the fruit to soak in an earthen dish, with sufficient water to cover it, from ten to fifteen hours before requiring it for use. Then place it on the back of the stove in the same water in which it has been soaked, which contains the flavor and nutrition soaked out of the fruit, and allow it to simmer slowly, just coming to a boil occasionally, until it is entirely cooked through, add sugar as the occasion requires to make it palatable. It can be served either hot or cold as you desire; as a rule, if it is placed one side and allowed to cool it will be fully as palatable. By this method you will secure a wholesome and palatable dish, full flavored and resembling in appearance, size, taste and flavor the original green product, as near as is possible.

INTEMPERATE TEMPERANCE.

HOW MANKIND STRIVES TO REACH RIGHT ENDS BY WRONG METHODS.

The Frenchwoman who, after quenching her thirst with a glass of water, declared that if it had been wicked to drink it, it would have been a most delightful beverage, struck a chord, the truth of which has been demonstrated by the tide of events ever since the fall of Eve. An unwise crusade against a supposed evil often has the effect of increasing rather than diminishing its power, and laws that are arbitrary frequently counteract the intentions of the lawmakers. This was never more forcibly illustrated than in the total incompetency of the recent fantastic attempt to manufacture a temperance society by legal enactment. Human law like all laws of nature should be made to harmonize with the requirements of the surroundings. Otherwise, like the fable of the house divided against itself, it cannot stand. The laws of hygiene for instance require that the germs of disease should be destroyed by the adoption of sanitary regulations whereby they are deprived of the power of disseminating their poison and propagating disease, herein the laws of nature and reason combine and the result is health instead of sickness. The making of state or municipal laws having for their object the promotion of abstemiousness in food or drink, can have no force so long as they are antagonistic to personal liberty, and tyrannical in their bearings; and they can have no greater effect toward the promotion of temperance, than would result in the use of blowing soap bubbles to clear a hazy atmosphere. Education stands in the same relationship toward temperance as does sanitary regulation, to the prevention of disease. The education of which we speak is that which enlightens the mind, softens the heart, gives strength of character and self control, and teaches each individual to be a law unto himself. Education like charity be-

gins at home and is thrice blessed. Its sphere is the domestic circle, from whence it undulates through society like circling waves; too often the spirit of illiberality is sown where the seeds of nobility of character should alone be nurtured. The young are indoctrinated with the idea that temperance means total abstinence, and that to imbibe any alcoholic beverage is a deadly sin, and when maturer years has ripened the judgment, and the man discerns the fallacy of these early lessons, he will be more likely to break loose from the ideas that were thus inculcated and run into excess, than if his early education had not been characterized by such inconsistent teachings. The prohibitionist attempts to supersede the necessity for self-restraint by the removal of temptation, if logically carried out to its sequel, would be to destroy property lest any one should steal, annihilate money because it is the root of all evil, forbid the existence of women because they debauch mankind, or call upon the Almighty to cause all vegetation to wither because it contains the alcoholic germ. If these social reformers would exert their influence toward the creation of a healthy domestic atmosphere, by such teaching as we have indicated instead of spending their energies in such an *ignus fatuus* manner, we would ere long witness a change for the better in the habits of the people. There is a great deal of mistaken sentimentalism manifested toward the drunkard, whose place should be behind the walls of the penitentiary or of an inebriate asylum where he should be treated as one who has broken the laws of both God and man. If such men were punished thus, there would be very little drunkenness in comparison with the state of society where prohibition reigns over all.—*Western Broker.*

A PERFECT HOME.

A BRIGHT-FACED MOTHER THE KEYNOTE TO DOMESTIC HAPPINESS.

The late Helen Hunt, writing of a perfect home, said: "The most perfect home I ever saw was a little house into the sweet incense of whose fires went no costly things. A thousand dollars served as a year's living for father, mother and three children. But the mother was the creator of a home; her relations with the children were the most beautiful I have ever seen; every inmate of the house involuntarily looked into her face for the keynote of the day, and it always rang clear. From the rose bud, or clover leaf, which, in spite of her hard housework, she always found time to put beside our plates at breakfast, down to the story she had in hand to read in the evening, there was no intermission of her influence. She has always been and will always be my ideal of a mother, wife and homemaker. If to her quick brain, loving heart and exquisite face had been added the appliances of wealth and enlargements of wide culture, hers would have been absolutely the ideal home. As it was, it was the best I have ever seen."

INNOCUOUS DESUETUDE.

WHAT HAS BECOME OF THE NEW YEAR'S DAY OF OUR KNICKERBOCKER FOREFATHERS?

A nameless, or at least an anonymous poet, writing a number of years ago about the early history of New York city, mentioned

"The good old days when doughnuts were made as big as bricks,
And 'twas not though unmannerly to eat as many as six."

Then he went on, and bewailed him, as the fashion of some poets is, that the olden observances of festal days, especially that of New Year's Day, were passing away, and were no more to be relied upon to gladden the heart of man.

This is true! It is by no means a fresh and original reflection, anent the American, that he neglects the

hoary past, and ardently woos the glowing future, unfaithful even to the present, so that he can gain fair promises from the love to come. We do not quarrel with him. We are also American, but it is well, even for us, who are pledged to the mystic, wonderful, and intricate secrets of chemistry, to inquire into the reasons why we neglect the old for the new, and to ask whether it is altogether the part of wisdom to do it.

"It is well to be off with the old love, before you are on with the new,"

sang a philosopher, in rhythm. But is it possible for us to rid ourselves entirely of the past, before we embark on that cruise through futurity which entices every adventurous soul? It is said of humanity that pre-natal education can never be thoroughly unlearned. If this is true, the old order, though it change, will influence the new, and perhaps the leaven of the past working after the manner of all leaven, may leaven the lump, no matter what the later predilection may be.

We do, however, change our manners and our customs. The New Year's Day, just passed, has shown it, as every great occasion shows it. That day, being typical of general observance, may be described, briefly, to point the moral, if it be a moral. The New York observance of New Year's Day is as purely a Knickerbocker custom as anything could be. Logical and apposite in its inception, it first found place, so far as we know, only among the Dutch worthies who laid the foundation of the greatness of our city. They were not many, but they were doughty and mighty. It was no "Dutch courage" that made them the heroes of our early days. Phlegmatic and slow, forceful and magnificent in their own quaint way, they kept the time to think. We think to-day, but we do not take time for the purpose. They remembered that as the years went by, it was well for comrades to clasp hands from time to time, and they founded the custom of New Year's calls.

It was a graceful and a most apposite thought. Men and women who knew that they were together on earth for only a brief term, pledged one another in friendship at the opening of each new year. No one was worse, but every man was stronger for knowing that he had strong bonds and ties of friendship here and there.

Then, "one good custom" did "corrupt the world." It came to pass that young New Yorkers, copying their forefathers, made the day an occasion of unreasonable license. To greet one's friends is well, but to shake the cold and unresponsive hand of casual acquaintance all day long, is profitless and meaningless, and it took New York a short time only to find out the fact.

So, as we have just learned definitely, New Year's Day is an occasion which is no longer remembered in the old way. The day just past was one on which New Yorkers did not go from door to door, visiting old friends and wishing to each, happiness and prosperity for another of the years that are all too few for the average man's accomplishment of purpose. We have distinctly abandoned an old custom. Why?

It would be easy to say that the city has been enlarged, and that the horizon of daily life now takes in too great a scope for a man to cover the entire ground of his circle of acquaintances, even by the use of a cab at \$2 an hour. This, however, like other patent explanations, is insufficient. If the spirit of the festival, and it was a true festival, survived, some measure of observance would remain, and it is a fact that New Year's calls are no longer customary.

The reason is simple and is strong in its very simplicity. The custom dies out because it has not, or seems not to have sufficient utility. Men no longer call. Women no longer "receive" on New Year's Day. It may be well to abandon a custom that has become too onerous for its observers, but it is well to stop and consider whether it be not well to preserve some customs for the very sake of maintaining the spirit that established them, even though it lack utilitarian value. The people without a past may perhaps fall into as evil a case as a people without a future.

TOMATOES.

THEIR RECENT ADOPTION INTO GENERAL USE IN ENGLAND.

American readers, accustomed to see tomatoes in some shape on the table nearly every day of the year, will scarcely appreciate how nearly that familiar vegetable comes to being a rare delicacy in England. We quote the following from the *London Tatler* of recent date:

Ten years ago it was an exception to find this delightful fruit on the tables of any but the wealthy; but to-day they are to be found in most houses during the season, their extensive cultivation having brought down the prices so as to make them come within the reach of all. The tomato, or love apple as it was formerly called, originally came from South America, but it was not until the climate of the United States was found to be eminently adapted to their growth that they came into general use, the taste for the same spreading to Europe. It is, in addition to its valuable hygienic qualities, one of the most profitable fruits to cultivate, and we know of one private gentleman who sends no less than one ton to market daily in the early season, the price paid for the same averaging 6d. per pound, all of them being grown under glass. Few come to perfection in the open air, owing to the short duration of sunshine in England. Like the olive, it was a long time before people became accustomed to their peculiar and delicate flavor, but each day they grow in popularity, so much so, indeed, that Cape Town has been requisitioned for a supply of the same when they are out of season here.

BRIE.

HOW THE CHEESE OF THAT NAME IS MADE.

A cheese that makes the epicure's palate bob with delight is called "Brie," or "Fromage Coulommiers," as one of the brands is called. Brie is the name of the province in France where this cheese is made. Those French peasants, in making this delightful cheese, set the milk for twelve hours, then skim it. Twelve hours later the skimmed milk is curdled with rennet. Twenty-four hours after curdling the curd and cream in equal parts, are put together in moulds, spoonful by spoonful. The tin mould, which is topless and bottomless, rests on a straw mat—single straws laid side by side to cover a surface of about twelve inches, and this is held together by a woof of two or three threads. This mat lies on a thin board, resting on an inclined shelf, to drain off the whey. After two days, it is turned out upon another straw mat, which rests upon a mat of osier, and lightly sprinkled with salt. It is then turned every day until cured. It never feels the heat of fire. After this it will keep a year, provided you can keep it away from the mouths of people who know a good thing when they see it.

OLIVES.

THEIR VARIETIES AND DIFFERENT DESIGNATIONS.

The designation of "Queen" has no reference to size, only the variety, they being round—the others oval—in shape. The olives put up for table use by the Bordeaux bottlers are of several different varieties. The large Spanish olives, known to us as "Queen Olives" are known to the trade as "Padrones Sevillas." These by the way, are quite a distinct variety from the other, varieties grown in Spain, known as "Manzanillas," which are used for making oil, the "Gordalles," having much more meat but less oil. The smaller olives put up in Bordeaux are principally of French growth and are known as "Amelleaux," "Verdalles" and "Lucques," the latter called here "Crescent Olives" on

account of their shape, and are much preferred to any other for table use. The "Verdalles" have a strong, full flavor, and are much used for sauces, to be served with meats, while the "Amelleaux" have a little more oil and less flavor. There is also a fourth variety, known as "Picholies," similar to the "Amelleaux" in character, but larger and longer. "Olive farcies" are Amelleaux olives stuffed with anchovies and capers. As a rule, the American trade prefers the "Queen Olives" on account of their size and fine appearance, the smaller size being as large as the largest of other varieties; but in Europe the smaller olives are quite generally preferred on account of their flavor and the finer quality of the meat.

WHAT BEEF COSTS.

THE PROFITS OF THE RETAIL BUTCHER EXHIBITED IN DETAIL.

The question has frequently been asked why it is that when the newspapers quote the wholesale price of beef at from four to seven cents a pound, the consumer is compelled to pay as much as twenty or twenty-three cents a pound. To answer this question intelligently the AMERICAN ANALYST detailed one of its staff to make the necessary inquiries, and we give herewith the itemized results. A carcass of beef, weighing 750 lbs., cut into loins, rounds, chucks, ribs, plates, shanks, flanks, kidneys and necks, will make the following product, at the retail price stated. The average wholesale price of such a carcass in New York is seven cents, or \$52.50 for the carcass, which, when retailed, as shown by the table subjoined, would make \$92.12, or a profit of \$40.62 upon an investment of \$52.50, which would certainly appear to the outside observer as a pretty good profit to the retailer. It is true that from this profit must be deducted the expenses of the retailer's business; but, nevertheless, it also proves conclusively that the retail butchers have no grounds for complaint against the Chicago dressed beef men, nor can the public have unless it is that the prices of meat at retail stores are as high as they were when cattle sold at higher prices; but the remedy for this should be demanded of the retailer, whose prices have not been reduced in proportion to the wholesale price. We may add here that the retail prices given are the lowest prevalent, and where there is any variation, it will be found that the prices demanded by retail butchers are somewhat higher. In any case, it should be borne in mind that as for quality, Chicago dressed beef is always the best, having the advantage of more careful selection, better dressing, and consequent tenderness.

A GLOSSARY OF MICROBES.

CLASSIFICATION OF THE MICRO-ORGANISMS OF FERMENTATION AND DISEASE.

Mr. W. Hamlet gives the following classification of microbes. 1. Microbes which appear as points are called *monads*, *monera* or *micrococci*. They are motionless, and may be regarded as the spores of other microbes. 2. Motionless linear microbes—the *bacteridians* and the *bacilli*. To them belongs *bacillus anthracis*. 3. Cylindrical mobile microbes, having rounded ends or contracted in the middle so as to form an 8, are the *bacteria* proper. Among them is *bacterium termo* of putrefaction, and the commonest of all. 4. Flexuous mobile microbes. They look and act like eels, and differ but little from the equally active bacteria. They are the *vibrios*. 5. Spiral microbes, resembling a corkscrew and mobile; *spirilla spirochetes*. Their presence in human blood appears to be connected with intermittent fever. 6. Microbes with heads, very active, having globules larger and more refractive than the rest of the body at one or both ends. These globules are apparently spores ready to be detached from a bacterium—*bacterian capitatum*. Besides these six principal states, the microbes form agglomerations or colonies that often notably changed the aspect of the elementary cells, and which have received various names. Agglomerations in microscopic masses, surrounded by a jelly that sticks them together and deprives them of motion, are called *zooglaea*. A non-gelatinous membrane formed of motionless bacteria is *micoderma*. Bacteria attached end to end in a string form filaments of *leptothrix*. A number of spherical micrococci joined one after another form the string of round grains called a *torula*. A considerable number of species may be included in each of these divisions; and there does not appear at present any way to distinguish by sight a disease-producing bacterium from a harmless one.—*Pacific Record*.

OUR COLORED POPULATION.—There are 7,000,000 negroes in the United States. In the South there are 16,000 colored school teachers. They have colleges, universities and seminaries, and are worth \$2,000,000 in property.

IRON PIPES LINED WITH GLASS.—A process, called the Cooper process, of lining iron pipes with glass, is reported, which is said to have stood the severe test of having water passed through them at the boiling point and immediately followed by water at a temperature of 33 degrees, and without in any way cracking or damaging the glass. If the invention shall prove equal to such changes of temperature in ordinary service without injury, it will be found exceedingly valuable.

THE COST OF BEEF.

One Steer, weight 750 lbs.—Cut as below.

PRODUCT.	LS.	CUT PRODUCT.	LS.	PRICE PER LB.	AMOUNT.
				Cents.	
Loins.....	159	Porterhouse Steak.....	55	23½	\$12.93
		Sirloin Steak.....	85	21	17.85
		Suet.....	19	4	76
2 Rounds.....	154	Round Steak.....	74	17	12.58
		Boiling Piece.....	16	7	1.12
		Roast Rump.....	39	15	5.85
		Soup Shank.....	25	5	1.25
2 Chucks.....	138	Shoulder Steak.....	74	11	8.14
		Boiling Pieces.....	64	7	4.48
2 Ribs.....	74	Roasts.....	74	19	14.06
2 Plates.....	120	For Salting.....	120	7	8.40
2 Shanks.....	46	Boiling Pieces.....	21	7	1.47
		Soup Bones.....	25	5	1.25
		For Salting.....	13	7	91
2 Flanks.....	18	Flank Steak.....	5	11	55
2 Kidneys.....	34	Kidneys and Suet.....	31	4	1.24
2 Necks.....	7	Necks and Bones.....	7	4	28
		Shrinkage in Cutting.....	3	..	
Total.....	750 lbs.		750 lbs.		\$93.12

ORGANIC POISONS.

PTOMAINES, THEIR CHARACTER, OCCURRENCE AND EFFECTS.

At the fifth annual meeting of the New York State Medical Association, held at Albany in October, the subject of ptomaines, leucomaines, and extractives, was discussed by several of the members. In speaking of the composition of ptomaines, Prof. Elwyn Waller of New York said that the presence of nitrogen, sulphur, and phosphorus had been determined. They were volatile, unstable bodies, some of which could be represented chemically as ammonia, in which more or less hydrogen was replaced by the radical CH_3 , forming dimethylamine, trimethyldiamine, etc. Their action in the case of the poisonous members of the series when taken into the living body resembled that of the pyridic bases. Some produced a rapid dilatation of the pupil and weakening of the nervous centres, others loss of muscular contractility, others loss of cutaneous sensibility, others a slow action of the heart, others convulsions, others somnolence and torpor, and others pallor with profuse flow of the secretions. He thought that the ptomaines of cholera and typhoid had been found beyond much doubt. All ptomaines, leucomaines and extractives were converted albumens. Leucomaines were midway between ptomaines and extractives, without definite boundaries between them. They were divided into groups named uric and creatinic, from resemblances to urea and creatinine respectively. Sixteen were known. All represented progressive changes in albumen. All but one contained oxygen. They had been found in expired air, saliva, blood, brain, urine, pus and the digestive tract. The progressive changes being interfered with so that retention occurred at some intermediate stage, or by-forms arising as a result of the interference, diseases might at once be produced. The neutralization of these products, even where made by bacteria, must, he thought, be more important than the destruction of the micro-organisms. Dr. N. B. Sizer, of Brooklyn, stated that canned meats usually owed their poisonousness to the presence of ptomaines, and not to the action of the soldering fluid used. In one instance canned apricots had contained a poison due to some alteration by decay, and resembling tyrotoxin in its effects. It had killed the child of the nursing mother in a few hours, the mother in forty-three hours, and, after an illness of six days, the father also.—*Science*.

THE DANGER OF TIGHTS.

UNHEALTHFUL COSTUMES WORN ON THE BURLESQUE STAGE.

It may not be generally known that the wearing of tights is a decidedly unhealthy practice. There has never been any scientific principle applied to wearing them properly. They are simply drawn on as tightly as two or four strong arms can get them, and fastened by a leather belt around the waist. This belt has to be drawn at such a tension that what doctors call unhealthy lacing is nothing in comparison with the torture to which women subject themselves in this manner. Articles have recently been written in reference to the wearing of tights in the circus ring, and the bad results that usually follow for the women so employed. But this is nothing compared to the system in vogue in comic opera and burlesque theatres. The circus rider has a ten or fifteen minute act to perform, and she is done for the night. The chorus girl dresses at half-past seven, and knows no relief until after eleven. Louise Montague, the handsome Medora in "Conrad, the Corsair," said not long ago that she did not believe any woman who was not compelled to wear tights would do so. It involved a large expenditure of physical force, and she would be quite willing at any time to

accept \$25 a week less salary if she were not compelled to wear them. As an expert on the question, she added that there was no doubt whatever that women's health was injured by this wearing of tights. Fortunately for herself she had not been compelled to do so for any length of time, but so far as her observation went, women became old before their time by means of these modern requisites of the stage.

WHALE'S MILK.

THE LATEST FAD OF ENGLISH VALETUDINARIANS.

A London correspondent of the *Druggists' Bulletin* writes: "On turning down Oxford Street, my attention was attracted by a huge sign on the opposite side of the street, and also by the number of people flocking into the building. This sign read as follows: 'Whaloid. Infallible cure for Consumption. Dispensing hours, 8 to 10 A.M., 3 to 5 P.M.'"

"Entering the building I was at a loss what to make of the matter, as all I could see was the crowd and a large tank in the centre of the room. This tank was some 70 feet long, 30 feet wide, and as I learned afterward about 30 feet deep, having been constructed at a great expense. While waiting patiently for developments I found that the liquid was being lowered or let out by some means. Soon a smooth black surface appeared to view, and as the water continued to recede I became aware that a captive whale was on exhibition. Surprised at not having to pay any admission fee, I was soon made aware of the reason. A frame-work had been constructed, on which the animal rested, and soon an expert milkman was engaged in extracting for the consumptives, whaloid (or whale's milk) which was greedily absorbed at five shillings per glass. This plan seems to be identical with that of the milkmen in Naples, who lead a cow to the door and deliver the fluid in the presence of the consumer, so that the latter can be satisfied that no illegal dilution is indulged in. I had hardly recovered from my surprise at this unique idea of getting nature's own emulsions when I was to encounter a severer shock. Joining the throng who were leaving, I found myself drifting further down the street toward Southampton Row. The place of attraction proved to be, however, a smaller building, also labelled in a mysterious manner: 'Codloids. Authorized agency protected by letters patent. Supplied to subscribers only. Specific for rheumatism and consumption.'

"Now, what do you suppose codloids proved to be? Why, eggs of the cod-fish, and wonderfully large ones too. They were retailed at two shillings per egg, and eaten raw with a little sodium chloride, which in plain English means salt. I retired that night with the conviction that our native therapeutics and pharmacy were in a very primitive condition, and had been obscured by a large sized 'cloudoid.'"

NOTHING LOST.

WHAT BECOMES OF FOOD WASTE IN PARIS.

The *Revue des Deux Mondes* has some curious statements respecting the food consumption of Paris. In the large lyceums and schools, boys are generally very wasteful; they will throw away half the bread they get for lunch, tread upon it, kick it into the gutter, ink it, etc. None of these fragments are lost. The servants sell them to certain dealers who are called *boulangers en vieux*, and turn their acquisitions to good account. They first pick out all the tolerable pieces, which they heat in an oven and then rasp clean. Thus prepared, these bits re-appear in the market in the shape of toast for soup. Most of the *coûtons* cut into lozenges and served on the tables of the rich, with spinach, have no other origin. As for the dirty crumbs and refuse left after the picking, they are pounded in a mortar and sold to butchers as *chapelure*, with which they cover their outlets and knuckles of

ham. The really filthy remainder, which is too bad even for *chapelure*, is blackened over a fire, pounded, and then mixed up with honey aromatized with a few drops of essence of peppermint. This is sold as an opiate for the toothache.

SANITARY SNOW.

SOME POPULAR MAXIMS ON THE VALUE OF SNOW TO HEALTH.

1. A snow year; a rich year.
2. In March much snow, to plants and trees much woe.
3. Snow for a se'n'ight is a mother to the earth, forever after a stepmother.
4. Snow is the poor man's fertilizer.
5. The more snow the more healthy the season.
6. What lay hidden under the snow comes to light at last.
7. When in the ditch the snow doth lie,
'Tis waiting for more by and by.
8. When the snow falls dry it means to lie;
But flakes light and soft bring rain oft.
9. Whether you boil snow or pound it, you will have but water from it.

BOGUS EGGS.

A DOUBTFUL STORY FROM THE REGION OF NATURAL GAS.

Artificial eggs have been sold in the Pittsburgh market and offered to the public in the place of real ones. A woman walked into the office of the Board of Health on Seventh Street, in that city, with a basket containing four dozen eggs.

"All these eggs are manufactured and not a single one has been laid by a hen," the woman exclaimed to one of the health officers. "What am I to do about the matter?" she then asked.

The gentleman picked up one of the eggs, looked at it, and he then gazed at the woman in astonishment, saying:

"What is wrong with the eggs? They look all right, and I don't see any difference between them and any other eggs. You mean to state that they are manufactured? They may be rotten, but I don't think that this egg was made by the mere ingenuity of any human mind."

"Well, then, you are just a little mistaken, that is all," said the woman, "and I will prove it to you. Look here, now, at this egg."

She then took one of them from the basket and broke it, and when the officers observed the yolk their faces bore the evidence of unmistakable wonder.

In shape the yolk was similar to that of a real egg, but its color differed somewhat from that article, being darker and of a browner tint than that in the ordinary egg. Besides that, however, the yolk of the false egg consisted of a more jelly-like substance.

Its composition appeared to contain gelatine, syrup and starch. The white of this manufactured article looks exactly like the white of the real egg. It had the same transparent appearance, and the imitation seemed to be perfect.

But the most puzzling thing is the shell. There is no difference noticeable to the eye at all, and it is not wonderful that any one should buy such an egg as real hen fruit.

The entire article, outside of the yolk, is a perfect counterpart of anything we see in the real egg. The woman bought them in the market at thirty cents a dozen.—*Pittsburgh Dispatch*.

Subscriptions \$1 per year. Now is the time to subscribe.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

January.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, quail, chicken, duck, turkey, rabbit, goose.

FISH.—Bream, cod, crabs, eels, carp, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, cauliflower, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, squash, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

CHOWDER.—Fry some slices cut from the fat part of pork, in a deep stewpan; mix sliced onions with a variety of sweet herbs, and lay them on the pork; bone and cut a fresh cod into thick slices, and place them on the pork; then put a layer of slices of pork, on that a layer of hard biscuit or crackers, then alternately the pork, fish and crackers, with the onions and herbs scattered through them till the pan is nearly full; season, pepper and salt; put in about two quarts of water, cover the stewpan close, and let it stand with fire above and below it four hours; then skim it well and serve it.

MACARONI, TOMATOES AND CHEESE.—Cook the macaroni till tender; make a sauce of ripe tomatoes seasoned with pepper and salt, grate some cheese; have ready a hot dish, put in a layer of macaroni, next sprinkle with cheese, then add a layer of the tomato sauce. Serve at once.

HALIBUT COLLOPED.—Cut the fish into nice cutlets of about an inch thick, and fry them; then put them into a broth made of the bones, four onions, a stick of celery and a bundle of sweet herbs, boiled together for one half an hour.

MUSHROOM CATSUP.—Mushroom juice, two gallons; allspice, two ounces; cloves, one ounce; black pepper, one ounce; mustard seed, one ounce; ginger, one ounce; salt, one pound; shallots, two ounces. Bruise all the spices, simmer all the ingredients for one hour in a covered vessel, cool, strain and bottle.

DELANO PUDDING.—One large cupful of chopped suet; three teacupfuls of flour, in which two heaping teaspoonfuls of Horsford's baking powder has been sifted; one teacupful of raisins; one teacupful of citron, currents and orange peel mixed; one and a half teaspoonfuls cinnamon; one teaspoonful cloves; one cupful milk; one cupful molasses. Mix dry ingredients together, add milk and molasses, stir well, steam for three hours and serve with hard sauce.

GINGER COOKIES.—Take one pint of molasses, one teacupful of butter, one spoonful of ginger, and one teaspoonful of salaratus, and boil all the ingredients thoroughly; when nearly cold, add as much flour as can be rolled into the mixture.

APPLE JELLY.—Pare and core five dozen of pippins, put them in a pan with enough water to cover them, let them boil gently until soft; let them cool, then strain them through a jelly-bag, put the juice in your preserving pan, and to each pint of juice put one pound of fine sugar and the peel of two lemons, then boil it until reduced to the stiffness of calf's-foot jelly, skim it well, and add the juice of a lemon; if you cannot get the pippin, any acid apple will do.

RUSSIAN SIGNS.

HOW THE CZAR'S TRADESMEN EXPLAIN THEMSELVES BY
SIGN LANGUAGE.

Mr. Stead, in an entertaining article in the *Contemporary Review* on Russia, says: "In Holland and Belgium the names of the railway stations are given in three or four different languages. In Berlin and Paris there is more consideration shown for foreigners than in St. Petersburg. The Russian thinks that in Russia Russian suffices as a means of communication. Fortunately in his shop fronts he mercifully interprets his Cyrillian characters by that original Volapuk of the world's infancy, the picture. The use of signs, once universal in England in an age when few save the priests could read and write, is now confined with us almost exclusively to the public-house. In Russia, the number of literates being still small in proportion to the population, the tradesman has recourse, not to signs, but to the simple and obvious expedient of painting upon the outside walls of his establishment more or less vivid pictures for all the articles which he has on sale. The butcher's front is covered with frescoes of legs of mutton and sirloins of beef. The green grocer glows resplendent behind a wall full of painted cabbages, carrots and turnips. Tempting pictures of the warmest of fur overcoats proclaim the dealer in winter wraps. Some of these mural advertisements are wretched daubs, as bad as our signboards, but others are very fairly executed; and, considering the difficulty of the subject and the stucco on which the artist has to work, the result is not unsatisfactory. The effect of the whole is to give much more variety and color to the streets of St. Petersburg than we can boast in Western capitals.

PRUDENT FORESIGHT.

THE DEALER DIDN'T WANT IT MADE TOO GOOD.

An inventor recently perfected a discovery, for which he has been working during a number of years. It is India-rubber in a state of solution, in the preparation of which no sulphur, ether or naphtha is employed. He applied it to a number of materials to demonstrate its varied and great usefulness, among them to a piece of black silk. A friend introduced him to a leading silk importer, who sent for his chief expert to examine the piece of material treated. After a very careful examination the expert said:

"This increases the lustre of the silk?"

"Yes," assented the inventor.

"Increases its body?"

"Yes, yes."

"Renders it thoroughly waterproof, while the rubber is not discernible?"

"Just so."

"And vastly increases the durability?"

"Exactly so. Just the four things that I claim. I'm delighted that you recognize them."

"And nothing is further from our wishes than to see such a thing introduced. We want silk to wear out, not made to last forever."

The merchant endorsed that view, and politely bowed the inventor out.

CITY STABLE NUISANCES.

BROMINE MAY SOLVE THE PROBLEM TO THE PUBLIC
SATISFACTION.

President Bayles, of the Health Board, last week issued a notice to the effect that as stable-owners had found that bromine solution corrected all causes of offence by absorbing ammonia, so that everything in a stable, including manure, bedding, and even saturated floor boards were rendered immediately inodorous, a

large quantity of bromine solution had been prepared at the disinfecting house in East Sixteenth Street. This would be given in five or ten gallon quantities to those who wished it for experimental use. Bromine being a material which cannot be safely handled in large volume, an effort will be made to induce the manufacturing chemists to put it up in half-ounce and ounce packages, which will respectively saturate five and ten gallons of water. These small packages, glass encased, are to be dropped into the water without unsealing, and broken as they lie in the bottom of the vessel by an iron rod.

A FATAL DRINK.—The "ginger beer bottle" seems to be very fatal to Englishmen who drink ammonia from it for pop, and declare that the blarsted stuff tastes queer.

WARMING CLARET.—Red wines should always be taken out of the cellar and kept in the kitchen some hours before they are drunk. They should never be placed before the fire, but allowed to become warm gradually.

OLD BUT GOOD.—Doctor (passing a stonecutter's yard)—"Good-morning, Mr. Jones. Hard at work, I see. I suppose you finish your gravestones as far as 'In Memory of' and then wait for someone to die, eh?" Stonecutter—"Why, yes; unless somebody's sick and your doctoring 'em; then I keep right on."

HOW HE WAS TO TAKE THE MEDICINE.—An absent-minded doctor, who had considerable investments in real estate, was about leaving a patient after writing a prescription, when he was asked for directions as to how the medicine was to be taken. "Oh, yes," he said, "I forgot. One-third down and the balance in one and two years."

BACTERIA.—"Bacteria" is a word in the plural number. It is applied to one of the lowest forms of vegetable life. The thing may be poisonous or not, according to the conditions. Bacterium is a chemical, not a medical term, though the physicians have got hold of it along with that modern doctrine known as the germ theory of disease.

GERMAN BEER GLASSES.—Each Berlin beer glass must bear the standard pint mark upon the side, showing where the top of the beer and the bottom of the foam must meet. Often a German will look at his glass and sarcastically inquire, "Is this a glass of beer?" Without a word the mug is filled to the proper line. This is just the way they do it at Coney Island.

EDUCATED APPRENTICE.—Boy to druggist: Want a boy?

Druggist: Yes. Ever worked in a drug store?

Boy: Yes, sir.

Druggist: What did you do?

Boy: Bit holes in porous plasters.

Rapid exit of boy, followed by a bottle of mucilage.

CHINESE DUCKS.—It is stated that there are more ducks in China than in all the world outside of it. They are kept on every farm, on the private roads, and on all the lakes, rivers and smaller streams. There are many boats on each of which as many as 2,000 are kept. Their eggs constitute one of the most important articles of food. They are hatched in establishments fitted up for the purpose. Some of them turn out as many as 50,000 young ducks every year. Salted and smoked ducks are sold in all the towns, and many of them are exported to countries where Chinamen reside.

DEPTH OF THE OCEAN.—The greatest known depth of the ocean is midway between the Island of Tristan d'Acunha and the mouth of the Rio de la Plata. The bottom was there reached at a depth of 40,236 feet, or eight and three-fourth miles, exceeding by more than 17,000 feet the height of Mount Everest, the loftiest mountain in the world. In North Atlantic Ocean, south of Newfoundland, soundings have been made to a depth of 4,580 fathoms, or 27,480 feet, while depths equaling 34,000 feet, or six and one-half miles, are reported south of the Bermuda Islands. The average depth of the Pacific Ocean between Japan and California is a little over 2,000 fathoms; between Chili and the Sandwich Islands 2,500 fathoms, and between Chili and New Zealand 1,500 fathoms. The average depth of all the oceans is from 2,000 to 2,500 fathoms.

A SURE SIGN.—"What an intellectual couple Mr. and Mrs. Cranque are!" "Intellectual? What makes you think so?" "Why, Mrs. Cranque cuts her hair short, and Mr. Cranque lets his grow long."—*Harper's Bazar*.

NO ADULTERATION THERE.—Servant girl (from the country): Mister, I never find any cream in this milk of yours. Milkman (highly pleased): No, young woman, I never adulterate my milk with anything.—*Chicago Tribune*.

STRONG!—"This butter, Mr. Spicer," said the dealer, "carried off the prize at the farmer's fair," and Seth spat out a taste of the compound and remarked: "Unless the prize was a ship's anchor and chain cable, I would think the butter could have carried it off easily."—*Grocers' Advocate*.

BUSINESS NOTES.

TWIN COMFORTS.

Two essentials for sound and beautiful teeth are now supplied by the Horsey Manufacturing Company, of Utica, and may be found on sale at every druggist. They are the Ideal Felt Tooth Polisher, a perfect polisher of the enamel, a gentle stimulant to the gums, and a thorough cleanser of the teeth. It avoids all the well-known irritation, discomforts and injuries of bristles. A blessing to adults. A delight to children. More economical, more cleanly than harsh bristles. The other is what a noted authority describes as "the con-



necting link which makes our system a perfect prevention of decay." It was invented by Dr. B. T. Mason, President of the Fifth District Dental Society of New York State. It combines the best imported quill and the finest floss silk at the slight expense of ten cents for a case containing six tooth picks. Each holds a spool of one yard of floss silk, which is so earnestly advised by every dentist to be used between the teeth after eating, to promote comfort and prevent decay. The prices of these are remarkably low.

YELLOW FEVER.

JACKSONVILLE, FLA., Sept. 26, 1888.

I believe I have prescribed over one hundred bottles of Malted Milk for yellow fever patients during the present epidemic. Children and adults find it just the food needed for their diseased and delicate stomachs. Often I have found it retained on the stomach when everything else was rejected. Will write you more fully after the epidemic is over. I am treating from thirty to sixty patients daily. Yours truly,

GEO. F. CENTER, M. D.,
43 Julia Street.

To Malted Milk Co., Racine, Wis.

A NEW BRAND OF SOUPS.

Armour & Co., the Chicago packers, invite attention to their packing of extra quality soups, in red lacquered one and two-pound cans. They are prepared under the direction of an experienced "chef," and are equal to the finest soups served in the best clubs, hotels, restaurants or private houses. They will stand at least an equal quantity of water. These statements are made by Armour & Co., which is a sufficient guarantee of their reliability.

GOOD AGENTS wanted to solicit subscriptions for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

FACIAL BLEMISHES.



The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Pitting, etc., and their treatment. Send 10 cts for book of 126 pages, treating on 25 skin imperfections, 6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,
210 West 42d St., New York City, N. Y.
Inventor of Facial Appliances, Springs, etc.
Six Parlor; three for Ladies. Established 1870.

CALIFORNIA

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }

See Clubbing Rates of **AMERICAN ANALYST**, on page 24, and study their advantages.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHAEMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERAEMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER McGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumline Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

GORDON & DILWORTH

MANUFACTURING PURVEYORS
Established 1847



ALIMENTARY
& PRODUCTS
ALL OF OUR PRODUCTIONS
BEAR THIS TRADE MARK
WE WILL PROSECUTE
ALL INFRINGEMENTS
& IMITATIONS

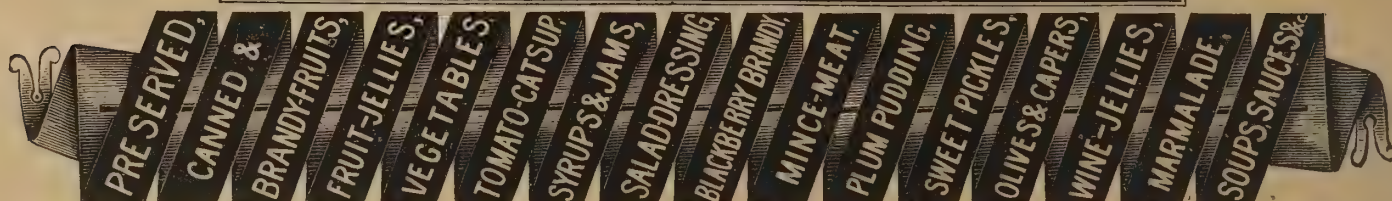


JELLIES
CANNED GOODS
PRESERVES
SYRUPS
BRANDY FRUITS
GORDON & DILWORTH
563 & 565
TABLE DELICACIES
GREENWICH ST.
NEW YORK
OLIVES CAPERS
TRADE MARK
MINCE MEAT
PLUM PUDDING
P.C.



CHOICE
& DESSERTS
OVER 100 DOMESTIC
& FOREIGN
FRUITS AND
VEGETABLES
TRANSMUTED
INTO TABLE
DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

BOVININE, BUSH'S FLUID + FOOD,

Is the ORIGINAL and ONLY preparation of RAW FOOD that does not become putrid and disgusting in a short time.

A MOST WONDERFUL NUTRIENT.

The vital principles of Beef and Mutton concentrated. A highly condensed Raw Food Extract. Acceptable to the most delicate taste and smell. Retained by delicate stomachs that reject all other foods. It assimilates more readily than any other food known to the medical profession. Bovinine under the microscope shows the blood corpuscles in their normal condition strongly marked, while in other foods or extracts this vitally important element is destroyed by the action of heat in cooking.

Containing 26.58 Per Cent. of Soluble Albuminoids,

According to OSCAR OLDBERG, Ph.D., Professor of Chemistry and Toxicology, and Dean of the North-Western College of Pharmacy.

A. L. LOOMIS, M. D., Professor in Medical Department of University of New York, says: "I prescribe Bush's Fluid Food or BOVININE, and prefer it to similar preparations."

J. S. JEWELL, M. D., Chicago, says of Bovinine: "I am delighted with it; it is what I have been looking for these twenty years, and it supplies a want that nothing else has been able to fill."

DRS. WARD and FRED. SMITH, speaking for themselves and their colleagues of the Hospital of St. Barnabas, Newark, say: "Bovinine was readily taken by the patients, was easily retained, and in many cases by stomachs which had rejected all other forms of nourishment. We believe Bovinine contains more nutriment, relative to the bulk, than any other preparation known to the medical profession."

"During the last four months of his sickness, the principal food of my father, General Grant, was Bovinine and Milk; and it was the use of this incomparable food alone that enabled him to finish the second volume of his personal memoirs.—FRED. D. GRANT."

October 1st, 1885.

Carefully prepared from the formula of the late James P. Bush, by the J. P. Bush Manufacturing Co., 44 Third Avenue, Chicago, Ill.

PUT UP IN 6 AND 12 OUNCE SIZES, AT 60c. AND \$1.00 PER BOTTLE.

For Sale by all Druggists.

Principal Office, 2 BARCLAY STREET, NEW YORK CITY.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco

Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism

Painful and Deficient Menstruation,
Headache, Hysteria, Impotency,
Convulsions and Prostration
from fainting, and in the
Convalescent stage of
all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

3 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

73 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES

BEADLESTON & WOERZ
291 W. 10th ST. NEW YORK.

Orders by Postal Card
promptly attended to.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	WITH DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar-		
cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		
Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
Braithwaite's Retrospect.....	2 50	3 50
The Epitome.....	2 50	3 50
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	3 50
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical		
Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.

ROBINSON'S
SURE CURE
FOR
RHEUMATISM

AND NEURALGIA.

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

A CURE

FOR

Sick and Nervous

HEADACHES.

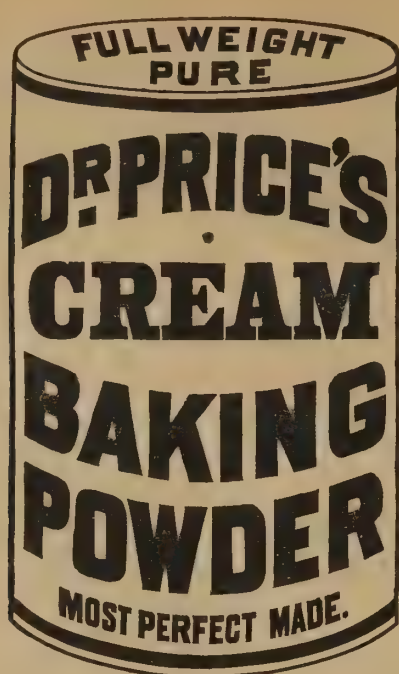


ASK FOR.

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

Established in London, 1831.

DEAN'S PATENT ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 35
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

See Club Rates for Medical Journals on page 23.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides. It deserves to stand in the front rank of reconstructives, and the reconstructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess. PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do. J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppel's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. R. H. GRITTENDEN.
Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alkalies.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Ocasara-Segrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe. We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 3.

NEW YORK, THURSDAY, JANUARY 17, 1889.

WHOLE No. 99.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Arsenical Poisoning.....	29
Domestic Dietetics.....	29
Editorial.....	25
Congress and Pure Food; Peptones; Dangerous Food Preservatives; Who Sells Chicago Beef? The Sun's At- mosphere; A Word-Counter; The Pure Food Fizzle.	
Food, Poison in.....	27
Gluttonous Wager.....	27
Olives, Pickling.....	29
Protecting the Consumer.....	28
Sugar Refining.....	26
What to Eat.....	28

CONGRESS AND PURE FOOD.

The recent report of the Commissioner of Agriculture on food adulterations, which was referred to at length in our issue of January 3d, has naturally attracted considerable attention at the hands of the press throughout the country. One contemporary believes the evidence confirms the statement that adulteration is widely practised on account of the cheapness of substitutes almost identical with the genuine article, and that the trade in these adulterated goods would be legitimate and proper, and probably very large, if carried on under truthful representations. This view has been maintained for several years by the AMERICAN ANALYST in opposition to the sensational and senseless denunciations in which a greater portion of the subsidized trade press has indulged. In another place we read, in reference to the attempts to extort blind legislation from Congress: "The Commissioner's report strengthens the position taken by those who resist selfish class legislation designed to tax one class of products for the benefit of another, and who insist upon Federal and State pure food legislation, under which the adulterated and unadulterated articles may compete for popular favor

under truthful representations as to their composition. The advocates of narrower legislation should perceive that Congress has shown its disinclination to adopt their views, and that if action is to be obtained it must be by a concerted effort in favor of a fair and comprehensive measure."

PEPTONES.

What are peptones? The *Schweizer Wochenschrift* has a very instructive article on this subject, from which we condense the following: Peptones are transformed albumenoid matter, the product of digestion. Digestion causes albumenoids to lose their coagulating power, and prevents their being precipitated by certain chemical reagents. The composition of peptones is similar to the matter from which they have been formed. Poehl says that peptone is the highest state of albumen. Another chemist believes the peptone of milk to be a solution of albumen in lactic acid; and as regards peptones generically, a solution of protein in lactic acid. Peptones, as most generally found in the stomach, consist of muriatic as well as lactic acid: in fact, peptones may be considered as a solution of protein in acid.

DANGEROUS FOOD PRESERVATIVES.

The French Committee on Hygiene has lately brought the dangerous nature of some food preservatives into prominence. It has been well established that digestion is only a form of decomposition produced by certain minute organisms which also produce the other form of decomposition which we call decay. It must be therefore evident that any substance which has the power of arresting decay may seriously interfere with the normal process of digestion. Hence, it is important that in investigating the character of a food preservative we should look further than as to its absolute freedom from what we call poisonous properties. On these principles the use of benzoic acid has been prohibited in France. For the same reasons salicylic and boric acids and the new antiseptic hydronaphthol have been prohibited. The greatest caution should be exercised in the employment of food preservatives, and until absolute safety can be guaranteed it would be as well to stick to the old process of Pasteurizing, which consists simply in exposing foods to such a temperature as will destroy germs.

WHO SELLS CHICAGO BEEF?

The foregoing is a question which is frequently asked without eliciting any answer. We all know that a large quantity of dressed beef from Chicago is delivered daily at all important railroad points, but the consumer does not feel sure whether the Chicago beef ever reaches his table. The retail butcher, falsely instructed by the wholesaler and the dressers of worn-out cows, miniature steers or worked down oxen, has for years felt it to be

his interest to decry Chicago beef, repeat all the sensational falsehoods he has learned about it, and when asked if he sells it held up his hands in holy horror that he should sell the beef he has so loudly decried. The truth, however, is that nearly every retail butcher having a first-class family trade to supply has had to sell Chicago beef, because it was the kind of meat that was the most tender and healthy-looking, and the only kind any sensible housewife would buy after she had once tried it. Many a juicy Chicago roast has been placed on the table with the well-meant but entirely erroneous comment, "What beautiful meat we are getting. We don't need to buy Chicago beef." The truth is that in most cases the best meat exposed in the butchers' stalls comes from Chicago, and the sooner the retail butchers realize that their customers prefer the superior Chicago beef under its right name the better they will get along.

THE SUN'S ATMOSPHERE.

The eminent astronomer, M. Janssen, says the *Boston Science News*, has been investigating the question of the existence of oxygen in the sun's atmosphere. The question to be decided was, whether the oxygen lines in the solar spectrum were due to the earth's atmosphere, or were really caused by the presence of that element in the sun. He ascended to the Grand Mulets on Mont Blanc, and at an elevation of 9,000 feet, where the air was comparatively rarefied and nearly free from aqueous vapor, found that the oxygen lines were almost entirely absent from the solar spectrum. Hence he infers that these groups would entirely disappear from the spectrum if it could be observed at the limits of the earth's atmosphere, and the rays and bands due to oxygen which we find in the spectrum are exclusively due to the earth's atmosphere. We are not, however, entitled to assume the absence of oxygen in the sun. We can merely say that oxygen does not exist in the sun's atmosphere in a condition capable of producing the spectral manifestations which it gives to the earth's atmosphere.

A WORD-COUNTER.

A telegraph operator in Minneapolis has invented a word-counting machine which may be used by itself or attached to a type-writer. It is much the same as a pedometer, only more accurate. It is as large as a small clock. The works are inside the nickel case, on one side of which is the face. The machine will count up to 2,500 words, and can be used for any number by keeping tally of the number of times it passes the 2,500 mark. There are two hands like the hour and second hand of a watch. Every time a word on the type-writer is finished the same motion which spaces for the word registers on the word-counter. When the second hand counts up to twenty-five words the large hand moves forward a quarter of a space. The face is divided into twenty-five spaces, one for each hundred words,

and a glance at it shows at once how many words have been written. The use of the word-counter is not limited to type-writing machines, but it can be used in writing and in dictation by keeping it at hand and making a slight pressure at the end of each word. Some operators attach it to their desks and work it with a string fastened to their feet. It is a useful invention, especially in telegraphy, and in making a written article of a specified length.

THE PURE FOOD FIZZLE.

Our esteemed contemporary, *The Retail Grocer's Advocate*, at length throws up the sponge on the subject of a National Food Law. The theme is suggestive, but we reserve comment. The *Advocate* says:

"It cannot be possible to ever accomplish much in the way of an organized effort at national organization in anything. That was why the committee so reported to the last convention. A national convention is all that should be attempted. Two such have been held in favor of a National Food Law, but nothing can be accomplished by holding any more such exhibitions. They do more harm than good. The trade press may as well abandon all attempts at accomplishing anything outside of educating the grocer to handle pure goods as fast as the consumer can be educated to pay for them. That work is steadily going on. Everything else is standing still in the pure food movement. An appropriate obituary notice of it is now about all that is in order."

SUGAR REFINING.

HOW THE PROCESS IS PERFORMED—WITHOUT ELECTRICITY.

In view of the recent collapse of the fraudulent electrical process for refining sugar, the following description of the genuine process from the *Popular Science News* will have timely interest:

"Sugar is a peculiar product of many different species of plants, but the greater part of that consumed is obtained from the sugar-cane and beet root. It has been known in the East Indies and China from a very remote period, but has only been generally used in Europe and America since the beginning of the eighteenth century. Previous to that time it was an expensive luxury instead of the cheap necessity of life which it has now become. Beet sugar is extensively used in Europe, the cultivation of the root being stimulated by the governments, but in this country the supply is principally obtained from the sugar-cane plantations of the Southern States and the West Indies. The sugar-cane belongs to the family of grasses, and contains about eighteen per cent. of pure sugar, although not more than one-half of this can be actually realized. The canes are crushed between rollers, and the expressed juice boiled down to the proper point and allowed to cool and crystallize. The moist, impure, dark-colored mass of crystals obtained by this process, is known as raw sugar and is shipped to the refineries, while the liquid which drains off is known as molasses, and consists of a mixture of cane-sugar, inverted sugar, caramel, etc., with a liberal admixture of "extraneous matter," that is, dirt. The process of refining the raw sugar and converting it into the white, brilliant, and chemically pure crystals of granulated or loaf sugar, is an interesting one. The raw sugar is dissolved in water, strained to remove the coarser impurities and pumped into large tanks, where a quantity of albumen, usually in the form of ox blood, is added, and the mixture heated until the albumen coagulates or becomes solid. In so doing it separates out the impurities which, entangled in the mass of albumen, rise to the top of the liquid as a thick scum which is pressed dry and solid as a fertilizer. This process is exactly analogous to the "clearing" of coffee with the white of an egg, the only difference being in the source from which the albumen is derived. The solution of sugar is now perfectly clear

BURNETT'S PERFECTLY Standard PURE Flavoring HIGHLY CONCENTRATED EXTRACTS

and pure, but is still of a dark color, which must be removed. This is done by filtering it through long iron vessels filled with bone-black or charred bones coarsely ground. This bleaching property of bone-black is not very well understood, but is a most valuable quality in many other arts besides that of sugar refining. The impurities are doubtless attracted and held by the pores of the bone-black, as it loses the property after a while and must be burned over again to restore its power. We now have a clear, colorless solution, consisting principally of saccharose or crystallizable sugar, with varying amounts of inverted or uncrystallizable sugar. It is only necessary to concentrate it by boiling and allow the sugar to crystallize out. If, however, this is done in an open pan under the ordinary pressure of the air, boiling will only take place at a temperature sufficiently high to "burn" the sugar and form caramel and other undesirable substances. The evaporation therefore takes place in a vacuum pan, an air-tight hollow vessel heated by a steam coil and from which the air and water-vapor are exhausted by a powerful pump. According to the well-known principle that the boiling point of a liquid is lowered as the pressure upon it diminishes, the clear syrup boils at a sufficiently low temperature—from 114 degs. to 150 degs.—to prevent the alteration of decomposition of the sugar. This process of evaporation requires great experience, and only a thoroughly skillful workman can obtain a complete and uniformly crystallized product. After the concentration has reached the proper point, the syrup is drawn off and allowed to crystallize, forming granulated sugar. The mother-liquor or syrup is drained from the crystals and boiled over again and a fresh crop of crystals obtained, and this process is repeated several times. These products are of inferior quality and are sold under various names as "coffee crushed," and "brown" sugars. There is a popular opinion that these sugars are sweeter than the more refined article, but this is a mistake, and they are really less economical to purchase, as they contain more or less moisture and glucose for which a comparatively high price is paid. The crystals of granulated sugar are dried without heat by a most ingenious machine known as the centrifugal drier. It is a cylindrical vessel with finely perforated sides, which is filled with the moist sugar and rotated with great velocity. The water is thrown off through the sides by the centrifugal force, leaving the sugar almost dry, a simple exposure to warm air only being needed to complete the process, and it is then ready to be sifted into barrels and sold in the market. Loaf sugar is refined in the same way, but the concentrated syrup is allowed to crystallize in conical molds, so that it hardens into a solid mass which is afterwards cut up into lumps. Rock-candy is sugar which has been allowed to crystallize slowly so as to form large crystals. Granulated sugar is one of the purest articles of food produced. It is rarely or never adulterated, the characteristic form of its crystals rendering any foreign admixture evident upon simple inspection."

THE TONGUE.—A white tongue is said to denote a febrile disturbance; a brown, moist tongue, indigestion; a brown, dry tongue, depression, blood poisoning, typhoid fever; a red, moist tongue, inflammatory fever; a red, glazed tongue, general fever, loss of digestion; a tremulous, moist and flabby tongue, feebleness, nervousness.

THE superiority of these Extracts consists in their PERFECT PURITY AND GREAT STRENGTH.

There is no subject which should more engross attention than the purity of the preparations which are used in flavoring the various compounds prepared for the human stomach.

They are not only true to their names, but are prepared from fruits of the best quality, and so highly concentrated that a small quantity only need be used.

JOSEPH BURNETT & CO., Boston, Mass.

STEVENSVILLE MILLS.

IMPEROYAL VACUUM COOKED OATS. IMPEROYAL VACUUM COOKED WHEAT.

M. D. STEVENS'

SOLE MANUFACTURER OF

ABSOLUTE PURITY.



HOUSEHOLD NECESSITY.

ONE MINUTE IN PREPARATION.
IMPEROYAL VACUUM COOKED HOMINY. IMPEROYAL GRIDDLE CAKE FLOUR.

Recommended by Eminent Physicians and Chemists.
Adapted to all kinds of Pastry, Bread, Biscuit, Griddle Cakes, etc., and its absolute purity and freedom from Alum, Terra Alba or any injurious ingredient, makes it a necessity in every household. No lady can afford to be without it. Sold by best Grocers.

M. D. STEVENS,
Room 18, Mercantile Exchange,
Cor. Hudson & Harrison Sts., NEW YORK.

A NEW ORNAMENT.—A new Parisian industry is the manufacture of hoar frost glass, which is covered with feathery patterns resembling those naturally produced upon window panes in cold weather. The glass is first given a ground surface, either by the sand-blast or the ordinary method, and is then coated with soft varnish. The varnish contracts strongly in drying, taking with it the particles of glass to which it adheres, and this reproduces very accurately the branching crystal of frost-work. A single coat gives a delicate effect, and several coats yield a bold design.

PIANOS AND PLANTS.—A piano tuner who says that pianos frequently deteriorate because they are allowed to become too dry, prescribes this remedy: "Keep a growing plant in the room, and so long as your plant thrives your piano ought to, or else there's something wrong with it. Just try it, and see how much more water you'll have to put in the flower-pot in the room where your piano is than in any other room. Some people keep a huge vase or urn with a sopping-wet sponge in it, near or under the piano, and keep it moistened just as a cigar dealer keeps his stock. They keep this up all the time the fires are on."



A GLUTTONOUS WAGER.

EATING ONE HUNDRED DOLLARS WORTH AT A SINGLE MEAL.

Some few gentlemen happened to be dining a few weeks ago at the fashionable restaurant, the Café de Paris, and one of them asserted that it was impossible for a single person to eat a dinner that should cost 500 francs, and that he would pay for it if he (the eater) could. The Vicomte de Viel Castel accepted the challenge.

"But when I say one person," he stipulated, "I don't mean a ploughman, but a *gourmet*, an epicure, myself; and when I say *eat*, of course it includes *drink*. Nothing is easier. I will dine, even here, at the Café de Paris, after drawing up my own bill of fare, and I will dispatch, without help, your 500 franc dinner.

"Leaving nothing in the plates and dishes?"

"Yes; I shall leave the bones."

"But you won't breakfast that day?"

"I shall breakfast as usual."

"Let it come off, then, to-morrow; here, at seven in the evening."

The *maitre d'hôtel* was summoned and consulted. It was the depth of winter; the Vicomte wanted forced fruits and vegetables; the shooting season was over; he insisted on game. The *maitre d'hôtel's* request for a week to prepare in was granted. The umpires were to dine at separate tables, to the right and left of the Vicomte's table. He was allowed two hours to dine in, from seven till nine, and he might either talk or hold his tongue.

At the appointed day and hour the parties met and took their places. The bill-of-fare was still a mystery. The first things served were twelve dozen Ostend oysters and a half-bottle of Johannisberg. The Vicomte's appetite was sharp; he asked for twelve more dozen oysters and another half-bottle of the same wine. Then came swallow's nest soup, which the Vicomte poured into a basin and drank off at a draught, like a cup of tea.

"*Ma foi, Messieurs*," he said, "I feel hungry to-day. Will you allow me to indulge a longing? I adore beef-steak and fried potatoes. That's an extra which I will pay for myself. Waiter, a bottle of Bordeaux, grand cru."

The umpires stared at one another. The beefsteak and potatoes were brought and consumed to the very last scrap.

"And now for the fish? *Messieurs*, this is a ferrat from the Lake of Geneva, the only place where it is found. It arrived this morning alive, in the water of its native lake. The ferrat is a delicious fish; I advise you to try it. Waiter, another bottle of the same Bordeaux."

Five minutes afterwards, all that remained of the

ferrat was the bones. Then came the truffled pheasant, which was demolished in about ten minutes more. Then the *salmis* or ragout of ortolans, ten in number, each of which made just one mouthful. Forced asparagus, green peas from Africa, strawberries and pineapple followed, with a half-bottle of Constantia; and then coffee and liqueurs; all of which were consumed to the last scrap and drop. The umpires acknowledged that everything had been executed loyally and literally aboveboard. It only remained to call for the bill. Total, 548 francs, 50 centimes. A few only of the items need be cited: swallows' nest soup, 150 francs; beefsteak and potatoes, 2 francs; ferrat, from the Lake of Geneva, 40 francs; two bottles of Bordeaux, grand cru, 20 francs; strawberries, 20 francs.

The only comment that need be made is, that for the same sum of money a plain but hearty meal might have been given to five hundred hungry men, women, and children.

POISONS IN FOODS.

METALLIC POISONS FOUND IN FOODS, DRINKS AND ARTICLES OF DAILY USE.

At a recent meeting of the Newark (N. J.) Medical Association, Dr. August Drescher, chemist to the New Jersey Board of Health, read a very interesting and instructive paper on the detection of mineral poisons in articles of diet and common use, which we condense as follows:

Chemists have found lead in canned foods over and over again, the lead being generally supposed to come from the accidental dropping of some solder into the contents of the cans while these were being closed, or the food, on being extracted from the cans, coming into contact with the solder. In samples of canned tomatoes and peaches, I have myself repeatedly discovered lead, and the scrapings of the inner tin-coating of their containers have invariably given evidence of the presence of that metal. Tin and lead may be alloyed in almost any proportion. The melting points of these alloys never agree, as might be supposed, with the mean of melting point or hardness of both metals, but quite the contrary; they diverge rather widely from the mathematically calculated figures for the same. Of this fact manufacturers of tinware are well cognizant. Tin and lead alloys are "more convenient and cheaper" than "plain tin." Doubtless there are manufacturers who do use pure tin, just as they claim, but they are certainly in the minority; thus, a number of our soda water apparatus makers now furnish tin pipe connections, etc., of pure tin. Far be it from me to say one word derogatory to the honest standing and dealing of men so inclined. Canned foods are now more largely bought and consumed than ever, for obvious reasons. In our day convenience, cheapness and dispatch are the desiderata. Why cook fresh fruit, corned beef, etc., while you can buy them "all ready made?" It is only necessary to warm them, and you will have a "hot dinner" in less than no time, and a cheap one at that time. The oft pointed-out danger of lead poisoning is pooh-poohed. Who ever died of eating canned foods? Directly, no one, it is true; and right here lies the danger. Had sudden deaths occurred from such a source, the public would doubtless have been aroused, and the resulting panic would have soon brought the delinquent to the corner. Lead, except in very excessively large doses, never kills at once. In point of fact, it is the Judas of metallic poisons. "Under the mask of a sweet taste," as the famous Professor Stoeckhardt very fittingly puts it, "it slowly, insidiously, yet surely, does its deadly work!" Bottled drinks (soda water, ginger ale, sarsaparilla and other "soft drinks," as well as wines, etc.), are exactly in the same predicament with "canned foods." It has been and is now a practice to clean old bottles by means of shot. Many authorities have, in the past and present, indicated the dangers of such

practice, and, by conscientious pharmacists at least, it is safe to say it has been generally abandoned. Not so, however, with bottlers of wine, soda water or other drinks with whom this reprehensible custom seems still to prevail. Shot contains, I would add, a not at all trifling quantity of arsenic, which is another very undesirable ingredient. The use of shot for cleansing bottles ought to be condemned outright.

During the summer I was entrusted with the task of testing "soft drinks" put up in bottles with patent metal and India-rubber stoppers. The analyses comprised my work for three manufacturers. Some of these beverages were found to be defiled with lead and copper, one with lead and arsenic, and the rest, with one exception, were proved to be contaminated with lead. All contained tin, but this metal is not considered to be poisonous. The stopples themselves were examined. They are generally composed of a loop of coated brass and a tin (and lead) button with an India-rubber belt. Analyses of them conclusively showed the presence of lead, copper, zinc and tin. These "soft drinks" are usually kept in boxes in "upside-down" position, thus favoring access of the beverage to the tin stopple (containing lead), and, though to a lesser degree, to the loop (composed of copper and zinc). The tin button with its India-rubber belt is thus in constant contact with the fluid, while this may suffer contamination by copper or zinc during the filling or emptying of the bottle, in cases where the coating (which is itself not unimpeachable) may have worn off more or less.

It is seldom, in our time, that we hear of metallic contamination of bottled wines or liquors. Suspicion rarely points that way, and examinations are consequently not called for. And yet, this ubiquitous foe sends his unerring arrow from even this quarter. In the year 1875 I was called upon to assist in an examination of a red wine, which was suspected of having been colored with aniline red. An afternoon birthday party of five persons had been attacked with vomiting and other alarming symptoms soon after having drank of this wine. Two of the number had been most severely visited by the distressing symptoms, and they were conspicuous as having been the "champions in the race," as far as relates to quantity imbibed. The host, a physician and pharmacist, puzzled, as might be expected, sent the rest of this wine to a chemist near by, with special directions to look for arsenic (coming from the suspected aniline). The chemist, a busy man, applied Marsh's test, and failed to find arsenic. He then referred the matter to me for further investigation. I also failed to find arsenic, but I found copper and zinc in appreciable quantity. Soft drink bottles with patent metal stopples, I have been informed, are now no longer cleansed by means of shot, better and more modern contrivances for the purpose being at hand. It is a well-known fact, that water, which has remained undrawn some time in our leaden aqueduct pipes may become polluted with lead, while oft-drawn water is not apt to be thus affected, it not finding the time to take up any of the metal. Similarly, shot standing under water, or being shaken up with it in bottles, may cause defilement; and this I have recently corroborated by direct experiment. As to the possibility of contamination of soft drinks in our usual metal stoppered bottles by means of the stopple itself, there can be no further doubt. Dr. Wm. K. Newton, New Jersey State Dairy Commissioner, of Paterson, has obtained—independently of my work (of which he knew nothing at the time) in this connection—results corroborative of my own. Later on, Dr. Harold, speaks of "lead in our soft drinks and in the tinned metal stopple," in a paper contributed to our local board of health.

Boilers, measures or other utensils of tinned copper, serving as receptacles or containers of foods or drinks, need faithful watching. If the tinning be of pure tin, it may easily wear off, more especially by exposure to acid or alkaline fluids, laying bare more or less of the underlying copper, which will then be a source of contamination. If the tin carry lead, our bill of fare will not fail

to offer also this questionable luxury. The same applies to brass and lead forks, knives and spoons plated with tin, nickel or silver. Tinned iron pots, measures, etc., are apt to carry lead; but I have, so far, found it in traces only, often very minute even, probably because of the small amount of lead present in the very thin tin coating of these cheap contrivances. The same might, seemingly, apply to tomato and other food cans of tinned iron, but we must here remember that in these cases there is more or less prolonged contact of food with metal, this enhancing the metallic invention. On opening these cans we often find them to be badly corroded on their inside surface, which circumstance in itself is loudly eloquent. Conversely, the tinned iron cooking dish, the measure, etc., are much less effected, they being used for the occasion, cleansed, rinsed and put by for future use. Tomato cans, etc., are used for their intended purpose but once; the cooking pots, measures, etc., a thousand times.

If clay, as found in the bosom of our mother earth, be not above our suspicion, we might at least expect to find it purified and suited to our uses, in the form of our familiar table pottery ware, comprising our coffee cups, dinner plates, milk pots, etc., these necessities of our daily life all appearing in our market of a milk-white color, suggestive in itself of purity. Even here disappointment awaits us, however. Clay is porous; to make it serviceable as pottery ware, it is glazed. In the process of glazing or enameling, the chief agent employed is lead oxide. If this were chemically completely used up so as to form lead silicate, which is generally insoluble, not affected by acids, etc., we would have little to fear from this source. If, however, the lead oxide should have been used in excessive amount, or, what is equally noteworthy, the temperature in the glazing process should not have been driven high enough, so as to result in using up all of the lead oxide, changing it to the form of insoluble lead silicate, we would have to face the danger of lead pollution. Our cheap glazed and enameled clay ware is generally unsafe for this very reason. Extensive experiments made within the last few years by unquestionable authorities in Germany, lead to the conclusion that the common clay ware manufactured in that country, in very many cases yields lead by treatment with vinegar, hot or cold, more or less, according to the extraction method employed. The clay goods of our American market, according to my own observations, are exactly in the same predicament. While conducting the experiments on glazed ware, I came across many samples of our now well known blue glazed metal pots, etc., and I am ready to state that I have found them safe in every single case, they failing to impart lead to fluids acid or alkaline, even after prolonged boiling with them. European governments allow definite quantities of lead in glazed ware. It is even claimed that a certain amount of lead is indispensable in the glazing or enameling process; but the lead should never be present in soluble form.

The India-rubber tubing, stopples, infants' nursing bottle fittings, nipples, etc., of our market I have found to contain large quantities of zinc, which is a metallic poison. The use of zinc oxide, etc., in these goods is prohibited by law in Europe, just as is the use of lead oxide. That nursing bottle tubing, nipples, teething rings, etc., may stand in some relation to certain infantile diseases seems plausible. India rubber tubes are often used for siphoning wines, ciders and other beverages which might thus become polluted with zinc. It is noteworthy that in my examinations of India rubber goods I have never yet discovered lead. Zinc oxide, *per se*, is not, perhaps, a poison. But, let it meet an acid, a poisonous zinc salt will result.

Poisonous metals or their compounds in these preparations for external use are considered to be dangerous to health because of their liability to be absorbed by the skin, or even carried to the mouth inadvertently by the hands, with which they may have been applied. Many hair dyes contain lead in large quantity, as has

often been found by chemists. White lead and calomel are regular ingredients in many of our toilet and cosmetic preparations. I have recently found white precipitate (a very poisonous mercurial compound) to be the chief constituent of a "cream face wash." White precipitate and red precipitate, both of mercurial parentage, are often bought in drug stores for the preparation at home of ointments, etc., which are empirically employed. Not without danger, most assuredly. The general use and application of such powerful poisons had better be left to the discretion of the physician, he alone understanding the system and manner of their application. The conclusion of my remarks is this earnest admonition to the public: Be careful how, what, out of what, with what you dine and drink; be careful what you apply to your face, hair, hands, or any part of your body.

WHAT TO EAT.

SUGGESTIONS FOR THE EFFECTIVE REPAIR OF BRAIN-WASTE.

A physician, writing on the food necessary to give strength and sustenance, says that if a person uses up his brain faster than he makes it he soon becomes nervous and irritable. If he does not assimilate enough food to supply its demands his mind is sure to become weak. The healthiest and strongest individuals, even, should eat a far greater proportion of meat than of vegetable food. Beef should be taken as the standard meat. It answers every purpose of the system. Veal and pork are not as easily digested. Pork, so far as its composition goes, is an excellent food for nervous persons, but it is not readily digested. Yet, in the army, we used to think nothing better for the wounded men than bacon. As a rule, salt meat is not adapted to the requirements of the nervous individual, as nutritious juices to a great extent go into the brine. The flesh of the wild birds is more tender and more readily digested than that of domestic ones. This is accounted for by the greater amount of exercise they take, thereby renewing their flesh more rapidly and making it younger than that of birds which lead a more quiet life. This is a suggestion that might be of benefit to women of sedentary habits, who are desirous of prolonging an appearance of youth. Fish of all kinds is a good food for the nervously inclined. Raw eggs, contrary to the general opinion, are not as digestible as those that have been cooked. A notion has been prevalent that many persons injure their digestion by eating too much. The fact is that most people don't eat enough. There are more people killed every year by insufficiency of nourishment than by overloading their stomach. Many of those who do eat a sufficient quantity are prevented from disease by digesting enough for the economy of their systems. The very first thing for any one to do who has exhausted himself by mental work or who has been born weak and irritable, is to furnish his brain with sufficient nourishment either to repair the damage it has sustained, or to build it into a strong, healthy condition. People in this condition usually suffer from nervous dyspepsia. Their stomachs are unable to perform the labor of assimilation. Owing to the deficient nerve power of the individual the food lies in the stomach unacted upon by the gastric juice, because there is none or the quantity is insufficient to have any power. Food, instead of helping to renew the body, and the nervous system with the rest, undergoes fermentation, and the body and brain it should nourish may starve. The person is in a worse state than if the food had not been taken, for the fermentation generates acids and gas. Nervous individuals may derive all the fat they need from sugar and starch. It is better, however, for those with weak digestive organs, or whose nerves are in a highly sensitive state, to get it from the animal kingdom than compel their enfeebled stomachs, intestines and

pancreas, to create it out of these articles. Good bread, sweet butter and meat are the best foods for the nerves. People troubled with insomnia, nervous starting from sleep and sensations of falling, can often be cured by limiting themselves to a diet of milk alone for a time. An adult should take a pint for a meal, and take four meals daily. People with weakened nerves require, usually, a larger quantity of water than those whose brains and nerves are strong. It aids in the digestion of food by making it soluble, and seems to have a direct tonic effect. With proper eating and drinking we should have fewer broken down, nervous wrecks, and far more vigorous intellects. The present human species cannot eliminate flesh from its food and amount to a row of pins. The fancy that nothing but vegetables should be eaten is apt to overtake every one somewhere in life. It is due to some disorganization, and usually passes away with the disturbance that created it.

PROTECTING THE CONSUMER.

SAFEGUARDS MAINTAINED AT THE STOCK YARDS IN CHICAGO.

The Union Stock Yards at Chicago are the most important cattle yards and largest market in the world. To show the public what care is taken to prevent diseased cattle from being slaughtered for food, we quote some extracts from the rules governing the handling of cattle at these yards. These rules are rigidly enforced.

Diseased animals and meats are condemned.

Dead hogs, 100 pounds and over, $\frac{1}{2}$ c. per pound less than 100 pounds, of no value.

Broken-ribbed and bruised cattle docked \$5 per head.

Public inspectors dock pregnant sows 40 pounds, and stags, altered boars, 80 pounds each. Public inspection of hogs, 15c. per car.

Some explanation may be necessary.

The second of the rules quoted refers to the price paid for dead hogs. Provision is made by which a rendering company seizes all dead animals. Docking means that a deduction is made from the market value. This rule prevents the sending of animals known to be injured to these yards, and the deduction is also sufficient to permit such animals to be bought and killed for hide and tallow for commercial uses. The stock yard company evidently does not mean to allow any fraud upon the public to be perpetrated.

GIVE THEM UP.—When the doctors give you up, there is only one way to get well; and that is to give the doctors up.—*Fliegende Blätter*.

PROTECTIVE RISKS.—An indignant landlord writes demanding the name of the party who first suggested putting coils of rope in sleeping rooms as a protection against fire. He says he provided every bedroom in his house with a coil of rope, and the first night three of his guests lowered their baggage from the sixth-story window and skipped, leaving several days' board bill unpaid. He allows that being burned to death is bad enough, but running a hotel for fun is a good deal worse.

HOW TO FORGET SORROW.—A druggist recently received a visit from a lantern-jawed, hollow-eyed man, who asked in cadaverous tones if he could give him any remedy that would drive away a nightmare-like care that was preying upon his health. The man of drugs nodded, and compounded a mixture of quinine, wormwood, rhubarb and Epsom salts, with a dash of castor oil, and offered it to the despairing patient, who apathetically gulped it down. History avers that for six months he could not think of anything except new schemes for getting the taste out of his mouth.—*British and Colonial Druggist*.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

January.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, quail, chicken, duck, turkey, rabbit, goose.

FISH.—Bream, cod, crabs, eels, carp, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, cauliflower, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, squash, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

TOMATO SOUP.—Four quarts clear soup, one quart strained stewed tomato, one teaspoonful sugar, one tablespoonful corn starch, one tablespoonful butter. Stir all together, season, boil a few moments and serve.

BEEFSTEAK PUDDING.—Take two pounds of round steak, one teaspoonful each of summer savory, celery salt, and one small onion chopped very fine, a sprig of parsley, salt and white pepper. Cut the steak up into small pieces and place a layer of it in a buttered dish, the sides of which you have lined with paste. Sprinkle over the steak some of the onion, celery salt, etc.; add another layer of steak and seasoning until all is used, then pour over it a little water and cover with paste. Place on the top of it a buttered paper, and stand it in a basin of boiling water, cover it tight, and let it boil two hours and a half. To make the paste, take one teacupful and a half of flour, a half teaspoonful of salt, and two tablespoonfuls of roast beef drippings, and wet it with a half teacupful of water. This quantity will make a dish sufficient for five persons, with the customary vegetables.

BAKED SPANISH ONIONS.—Peel four Spanish onions, put them in cold water with a small lump of soda, place on the fire and let them come to the boil, and then simmer them gently for half an hour; drain thoroughly, and put them in a baking dish with a little butter and bake till brown.

CANNED SALMON.—Cut round the top of the tin; place it in boiling water for a few moments, until thoroughly heated through, taking care, however, that the water doesn't reach sufficiently high to be in danger of flooding the contents. Have ready some nicely mashed potatoes, and arrange them in a wall around a very hot dish; turn the salmon into the centre of this, removing any pieces of bone there may be. Sprinkle a few capers over it, interspersed with morsels of fresh butter, and serve immediately, before it has time to chill. Rice, boiled as for curry, is sometimes substituted for the potatoes by those who prefer it.

BAKED LOBSTER.—Put a lump of butter in a saucepan, add a couple of teaspoonfuls or so of flour, and cook for several minutes, stirring all the time; thin to a thick cream with milk; add to this sauce the chopped meat of the tail and claws of a lobster, and a pinch of the coral which has previously been dried in the oven, and pounded. A little cayenne is an improvement, with a few drops of lemon juice. Put this in small baking dishes, one for each person; sprinkle with bread crumbs and a pinch of allspice and cloves. Bake a few moments till brown.

BERKSHIRE COOKIES.—One cupful of molasses, a teaspoonful of soda; dissolve in a half-cupful of cold

water, a dessertspoonful of salt, a tablespoonful of melted butter, one dessertspoonful of ginger, flour enough to roll out to the thickness of an inch. Bake in a quick oven for about ten minutes.

A ROLLA POLLA.—Beat together two cupfuls of sugar, one cupful of butter, one egg, two cupfuls of cream, half a glass of wine, three cupfuls of flour, a heaping teaspoonful of Horsford's baking powder, half a pound of seeded raisins. Pour into a pudding bag, and boil for three hours. When done, serve hot with a cream sauce.

ARSENICAL POISONING.

ITS FREQUENT AND FAMILIAR OCCURRENCE.

The AMERICAN ANALYST has on several occasions pointed out some of the dangerous coloring materials used by manufacturers of articles for domestic use. A new confirmation of our warnings is furnished in an article by A. W. Stokes, F. C. S., F. I. C., in the London *Chemical News*:

"Some few months ago I examined for a large firm of household furnishers, as well as for numerous private individuals, a number of samples of the then fashionable 'imitation Indian muslins' and cretonnes. More than 100 samples were examined, and 23 per cent. of these were found to contain arsenic in appreciable quantities. In all qualitative cases, Marsh's test was used, and only such samples as gave within five minutes indications of arsenic were marked arsenical. Several were quantitatively examined. The highest proportion of white arsenic found was 2.10 grains per square yard. The colors in which arsenic was principally present were the terra-cotta reds and the greenish browns. There being some doubt whether these materials would give off arsenical vapors, I made some experiments. From this it would seem that under ordinary circumstances, arsenic would not be evolved by such fabrics. Yet in two cases samples of these materials were brought to me by medical men, in which well-marked symptoms of arsenical poisoning were ascribed to their use. In one case some six or eight work girls employed in making up some of this material were all taken ill with the same symptoms of arsenical poisoning. Of course, in such case the material, when pressed with hot irons, is heated far beyond blood heat, and minute particles are detached and float in the air of the workroom. That the arsenic is held very loosely by the fabric was evidenced by dipping some of the fabric in water. Plenty of the arsenic was at once taken up by the water. It would seem at first as if this might be due to arsenic having been used as a preservative for the size or starch present as 'stiffening,' but then these muslins have no stiffening. A little flax mat of green color, weighing 9 ounces, contained 21 grains of white arsenic. I found my infant playing lately with a small glazed cardboard box of a green color that had once contained chocolate, and that had been obtained from one of the automatic supply boxes. After the manner of infants, he was occasionally sucking this. Out of curiosity I tested it, and found that the 'surface paper,' measuring 5 inches by 1¾, contained 1.10 of a grain of white arsenic. In all these cases the quantity of arsenic found is small, and it may be, under ordinary circumstances, quite harmless, but in all cases its presence is quite unnecessary. Other coloring materials could equally well be used in which there is no possibly noxious ingredient. Of wall papers submitted to me, 10 per cent. are found to contain arsenic. This is a high proportion, but then only suspected samples are sent for analysis. One of my rooms I found thus papered. Neither are those who avoid wall paper altogether safe. A lady some two or three years ago had her rooms painted, and covenanted with a sanitary decorating company that they should use on the walls paints containing neither lead nor arsenic. Pieces of the moulding she brought to me contained both lead and arsenic in the color. Omitting articles in which its occurrence has been purely accidental, arsenic has been found of late years to be present in some samples of muslins, cretonnes, wall papers, playing cards, the glaze of some enamelled stew-pans, the paper of fancy boxes, and in some furs. These last are usually the furs prepared by amateurs. So that we may picture an infant placed by an unfortunate concurrence of circumstances in a room covered with arsenical paper, having its cot draped with muslin or cretonnes, fed on food prepared in a glazed saucepan, itself covered by a rug, and playing with some fancy box of sweets or toys, all of these containing a minute but unnecessary amount of arsenic.

PICKLING OLIVES.

HOW THEY ARE PREPARED BY CALIFORNIA CULTIVATORS.

The olive raisers of California have different methods of preparing the fruit for pickles. The one adopted in Santa Barbara is as follows: The berries are put in fresh water, which should be changed every day, for forty or fifty days; then put in salt brine, not very strong, and, after remaining a few days, drawn off, a second brine substituted, made nearly strong enough to bear an egg. The water should be boiled. Keep the olives well covered with the brine. Great care should be taken in handling the berries so as not to bruise them. The easiest plan, when picking from the tree, is to drop them in water. They are usually picked when they begin to turn a purplish color. Another method, copied from the *Pacific Rural Press*: Pick the olives as soon as they begin to show a reddish cast, and rinse them in clean water. Then take one ounce of concentrated lye and dissolve it in water. One-third of this solution put in water enough to cover one gallon of olives. After a day or two pour off this water, and add another lye of the same strength. This may be repeated once more, as five or six days are consumed in taking out the bitterness with the lye. The lye should be used until the fruit suits the taste. Then the olives are put in pure fresh water until the alkali is well removed. This can be ascertained by the color of the water and by the taste. In salting, use the best Liverpool "coarse fine" salt, the amount being about ten pounds to the barrel of olives, water enough being used to cover the fruit. Barrel up tight, and keep in a cool place. All the process should be conducted in the dark, as the light is apt to injure the color. The celebrated olives pickled after the manner of Picholine are put under a treatment of lye made more alkaline by the addition of quicklime. After leaving the olives a certain length of time, until the pulp separates easily from the seed—a condition which depends upon the strength of the lye and the size of the olives—they are then washed and put in strong brine. In the South they flavor with fennel and coriander; sometimes they substitute in place of the seed a small piece of anchovy and a caper. In the latter case the olives should be in oil.

STONE SMASHING.—It is well known that a stone, however large, may be broken by striking a sufficient number of blows with a hammer along the line where it is desired to break the stone. In this process the force of the blow is expended in gradually weakening the cohesion of the particles in a line following the direction of the blows. This weakening is increased by each successive blow until finally rupture occurs.

TESTING ROOF SLATES.—A German trade journal advocates the following method of testing the quality of roof slates: The samples of the slate to be tested should be carefully weighed and then put into boiling water for a quarter of an hour. The water must, however, be fairly free from lime, saltpetre and ammonia. The slates are then re-weighed, and those that show the greatest increase of weight are those most capable of resisting deterioration.

AUTOCOPYING PRESSES.—Several improvements are claimed in autocopying printing presses by Mr. T. Reiner, of Leipsic. He provides two cylinders which may act as receiving surfaces for the writing, and which also operate with pressure to feed the paper to be printed upon. The patentee provides the cylinders with a surface composed of a mixture as follows: 100 parts soluble glass, 10 parts whiting, 10 parts magnesium carbonate, 10 parts silicate of magnesia, 10 parts glycerine, 10 parts water, 5 parts oxalic acid, 5 parts manganese ore and 5 parts mineral color. These substances may be used on any suitable supports, as plates of metal, glass, earthenware, for replacing lithographic stone. In combination with the cylinders is an ink trough consisting of two parts separated by a slit having a regulating screw. By the action of a lever the inking mechanism may be thrown in or out of action.

NEW USE FOR ELECTRIC LIGHT.—The body of a boy drowned at Winchendon, Mass., recently, was found through the use of the electric light, a bulb being fastened to a pole and submerged, illuminating the water for a considerable distance in the neighborhood. The electric light promises to become an important aid in all manner of submarine operations.

CONGESTIVE AND GASTRIC CHILLS.

While the familiar expressions, "Congestive chill" and "Gastric chill," are not, properly speaking, scientific, yet they represent facts of the highest interest and importance. All chills, so-called, are of one general type. A heated portion of the body is suddenly reduced in temperature. A feeling of cold, at first local and shortly afterwards general, is noticed, followed by a reaction in which high fever and extreme weakness are the main features. Gastric chills, for instance, are produced in children who eat excessive quantities of ice cream, who drink large amounts of ice water, or who go in swimming after a hearty meal. They are produced in adults by the same cause, although not to so great an extent, and also by the use of ice-cold summer beverages, now so generally in vogue. There is no doubt in the minds of the more advanced physiologists but that bronchitis, laryngitis, tonsillitis, asthma, coryza, and, deadliest of all, pneumonia, are similar in character, development and origin to the so-called chills, and are to be prevented and remedied in very much the same way. In every instance, when these ills are critically studied, the system is found to be in a diseased or unhealthful condition and the blood full of impurities. Dr. Miller, who deserves much credit for the successful introduction and development of the Turkish and Russian baths into the United States, says, in his writings on pulmonary diseases, that he never knew of a chill occurring in a person whose blood was perfectly pure. Scrofulous people, sufferers from malaria, men and women prone to sick headaches, chronic constipation, indigestion, skin eruptions, are the chief sufferers. On the other hand, athletes, young men and

women who exercise a great deal, and adults who engage in hard manual labor, are singularly exempt. In other words, those who are best qualified by nature to resist all physical ailments seldom or never suffer, and those who are already in a condition not far removed from disease itself are afflicted upon the slightest provocation. In nearly every instance of a serious chill, there is, beyond the fact of illness, the possibility, if not the probability, of intense pain and death. The truest wisdom lies in preventing all these ills by purifying the blood and restoring all the great vital functions to a normal state of efficiency and action. In accomplishing this end, not only is all danger from chills and colds reduced to a minimum, but the entire organization is strengthened and improved. In purifying the blood, the whole body is purified and ameliorated. To effect the purpose, Ayers' Sarsaparilla is the best. Other medicaments of value there are, but not one known to chemist or physician, will do the work so efficiently performed by this powerful alternative. It promptly dispels and expels the humors which clog up the minute vessels of which the human frame is composed. The liver, kidneys and bowels are changed from lethargy and mal-action to high activity and thorough cleansing power. The skin clears off as the impurities are removed, giving a handsome complexion and allowing the millions of pores and glands to again fulfil their functions. With the blood purer and stronger, the appetite increases and the palate regains its pleasurable powers of appreciation. Digestion is improved and accelerated, and the nerves and brain receive a new impetus. In a short time health and strength have replaced delicacy, disease and weakness, and the danger from all the ailments which are occasioned by colds and chills is annihilated.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the "Handy Binder" for binding the ANALYST, because of the following advantages: It is elegant in appearance, strong, durable and this new

method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office during December, 1888, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

BUSINESS NOTES.

CRYSTALS.

This is a new cereal food prepared from the heart of barley, made by Farwell & Rhines, of Watertown, N. Y. It has been well introduced, is liked by all who have tried it, and has the great advantages of being adapted to more uses, more quickly cooked and sold cheaper than other cereal foods. In order to still better introduce it, the manufacturers have issued the following circular to grocers, which speaks for itself:

WATERTOWN, N. Y., U. S. A.

DEAR SIR: If you order one keg or more of our patent barley "Crystals," and will send us a list of your customers, with their post-office addresses (residences), we will mail to each one a postal card order for one pound for trial. When these orders are presented and filled by you, please mark them paid and sign your name, and return to us at your convenience, and we will remit for same at the rate of five cents per pound. We think this will advertise you and us, and thoroughly introduce and make a demand for the goods. Please read the other page carefully, and oblige us. A circular containing directions for use should be given with each package. Respectfully, FARWELL & RHINES.

LOOK OUT for Imitations and Substitutes OF *Horstford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

"Coming events cast their
Shadows before."

PEARLINE

From the start, the
shadows have read, *Pyle's*
Pearline is mightier than
soap, muscle and washboard

combined. It is the modern soap. Nowadays one cannot afford to reject a new idea because it promises "big things." These are days of "big things." Wide awake men and women are looking for them. She who refuses the aid of PEARLINE is behind the times—far behind. She might as well reject the comfort and aid of the steam car—sewing machine—telegraph—electric light, etc., because she does not believe in them. Millions appreciate Pearlina, and have for years. Millions more will appreciate it—you will—why not begin at once to use it. Its prodigious popularity proves its merit—you have everything to gain, nothing to lose, therefore try it.

Beware

Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearlina, or "the same as Pearlina." IT'S FALSE—they are not, and besides are dangerous. PEARLINE is never peddled, but sold by all good grocers.



FOR THE **THIRD TIME**

In our history we have been forced to move into larger quarters to keep up with the demand from our New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade. We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the Famous Custom-made Plymouth Rock **\$3 Pants**, first, send 6 cents, for which we will mail you 20 samples self-measurement blanks, and linen tape measure, provided you MENTION THIS PAPER, or if you cannot wait for samples, tell us about the color preferred, with waist, inside leg, and hip measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. Remember, also, that we make to your order, Full Suits, \$13.25, Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.

NATRONA BI-CARBONATE OF SODA.

(ABSOLUTELY PURE.)

NATRONA



SODA

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-Carb. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,

NATRONA CHEMICAL WORKS.

PHILADELPHIA, PA.

LEA & PERRINS' SAUCE.

Lea & Perrins', the original and genuine Worcester-shire Sauce, has been before the public over a half a century. Like all popular favorites it has long been the standard of comparison and the pattern for counterfeiters who not being able to imitate its excellence offer to the public imitations in bottling, labels and style of putting up. They dare not counterfeit the signature of Lea & Perrins which is on the red label of every genuine bottle, and of which this is a facsimile.

Lea & Perrins

To be sure of obtaining the genuine article, see that the above signature is on the label.

ALTHENE SKIN SOAP

An absolutely pure and perfect soap for all purposes of the toilet, nursery, bath or sick-room. Has the approval of leading chemists and physicians, and is recommended by all who have used it. Price 25 cts. a cake, or 65 cts. for a box of three. Can be obtained of the retail druggists or from

J. W. CAMPION & CO., 916 Filbert Street,
PHILADELPHIA.

Sura Cura **ROBINSON'S**
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

Robert Gordon's

TRADE MARK.

SPICED * SEA * FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO,—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,

In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

ESTABLISHED 1857.

J. H. CUTTER,

OLD

BOURBON AND RYE WHISKIES.

We are the Sole Owners and Proprietors of this
Celebrated Brand of Whiskey.

C.P. MOORMAN & CO.

LOUISVILLE, KY.

We Guarantee the Superior Quality and Absolute Purity of every
Barrel of Whiskey sold by us under this Brand.

STEWART CERAMIC CO.,

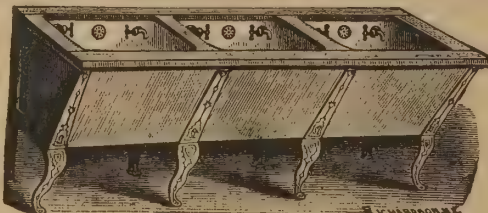
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

COLDEN'S

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

LIQUID

BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT
A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only
to be stirred up with water, which can be done with-
out the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use
night or day, when traveling or at home.

MALTED MILK does away with the danger of
using sour or impure milk.

MALTED MILK is free from starch and cane sugar.
All foods that have to be cooked contain starch.

Ask your physician his opinion of MALTED MILK,
he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and

family use, . . . \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or In-
valid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, JR.

ESTABLISHED 1793.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York. Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

PEACOCK'S BROMIDES

(SYR: BROM: COMP: PEACOCK)

NERVE SEDATIVE.

Each fluid drachm represents 15 grains of the Combined C. P. Bromides of Potassium, Sodium, Calcium, Ammonium and Lithium.

USES:--EPILEPSY, and all CONGESTIVE, CONVULSIVE, and REFLEX NEUROSES.This preparation has stood the test of time and experience, and can be relied upon to produce results, which can not be obtained from the use of commercial bromide substitutes.**DOSE:--One to two FLUID drachms, in WATER, three or more times a day.**

PEACOCK CHEMICAL CO., St. Louis.

THE TORSION**Braided Wire Mattress.**

At all times a thoroughly ventilated and perfectly clean mattress, it cannot absorb odors, or retain exhalations or disease germs.

D. HAYES AGNEW, M. D., Prof. of Surgery, University of Pennsylvania, says:

"The Torsion Braided Wire Pillow and Mattress I regard as superior to anything of the kind now in use; well suited for either private or hospital use."

Prof. W. M. H. PANCOAST, late Professor of Anatomy, etc., in Jefferson Medical College, now Professor of Anatomy and Clinical Surgery in the Medico-Chirurgical College of Philadelphia Hospital Surgeons, says:

"I have used in my surgical practice your Braided Wire, in the form of mattresses, pillows for the head and body, and short pillows for the arm and leg when injured. I find them most admirable, cool and light, yet affording perfect and elastic support."

I have saved a patient from bed sores by the use of the Braided Wire mattress."

WM. H. FORD, President Board of Health, Philadelphia, says:

"I have used the Torsion Braided Wire Mattress with great satisfaction, it is light and therefore easily handled; it is elastic and very comfortable. The case can be easily removed to afford a complete airing, a feature of great importance from a health point of view. It is an invention of great usefulness."

For descriptive circular and price list, send to

The Torsion Braided Wire Upholstering Company,
1017 CHESTNUT ST., PHILA.**THE****VIBURNUM COMPOUND**

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

RIDGE'S FOOD

is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

**GOLD MEDAL, PARIS, 1875
BAKER'S
Breakfast Cocoa.**Warranted *absolutely pure* Cocoa, from which the excess of Oil has been removed. It has *three times the strength* of Cocoa mixed with Starch, Arrowroot or Sugar, and is therefore far more economical, costing less than one cent a cup. It is delicious, nourishing, strengthening, easily digested, and admirably adapted for invalids as well as for persons in health.

Sold by Grocers everywhere.

W. BAKER & CO., Dorchester, Mass.

CALIFORNIA**Fine Table
Wines**

From our Celebrated Orleans Vineyard.

Charles Harbath & Co.

Producers of the

ECLIPSE

CHAMPAGNE,

530 Washington St.
SAN FRANCISCO.PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }**HORTON, CATO & CO.'S****"ROYAL" SALAD DRESSING.**

The best prepared Dressing, always fresh, does not turn oily, rancid or decompose as other dressings of a similar nature.

"ROYAL" WORCESTERSHIRE SAUCE,

The Peer of American Product.

HORTON, CATO & CO.,SOLE PROPRIETORS AND MANUFACTURERS,
DETROIT, MICH.

AMERICAN ANALYST CLUB RATES.

	Regular Price.	Price including American Analyst.		Regular Price.	Price including American Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,
19 Park Place, New York.

WANTED

A GOOD

ADVERTISING MAN

FOR THIS JOURNAL,

ALSO FOR

A MEDICAL MONTHLY.

LIBERAL TERMS.

ADDRESS,

ANALYST PUBLISHING CO.

19 Park Place, New York.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In dyspepsia and loss of appetite its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in Phthisis and other wasting diseases, Nervous Prostration, Constipation, Inanition, Malnutrition, Intestinal Indigestion and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.
Acidi Phosphorici aa, grains, ss.
Antipyrin.
Ext. Apii. Grav. dulc. (Celery), aa grains, j.
Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in Headaches, Neuralgia, Insomnia, Neurasthenia and general Nervous Irritability, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

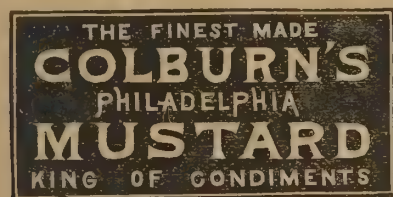
FACIAL BLEMISHES.



The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Pitting, etc., and their treatment. Send 10 cts. for book of 128 pages, treating on 25 skin imperfections, 6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,
210 West 42d St., New York City, N. Y.
Inventor of Facial Appliances, Springs, etc.
Six Parlors; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.



Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **SLIMEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for Dyspepsia, Diabetes, Debility & Children's Food. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES**, Props., Watertown, N. Y.

ARMOUR & CO. CHICAGO, ILLS.

PACKERS OF

Pork and Beef Products

CANNED MEATS,

ETC.,

FOR HOME CONSUMPTION AND FOR EXPORT

TO ALL PARTS OF THE WORLD.

Also,

SHIPPER OF

Choice Pressed Beef,

MUTTON AND HOGS,

In Refrigerator Cars,

To BOSTON,

NEW YORK,

PHILADELPHIA,

BALTIMORE,

And other cities throughout the country.



BEST IN THE WORLD.



W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

Tabasco Pepper Sauce OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

SWIFT'S Choice Chicago Dressed Beef — AND — MUTTON.

CAN be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is retailed by all first class butchers.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the public may rest assured that in purchasing our meat from dealers they will always receive the best.

SWIFT AND COMPANY,
UNION STOCK YARDS,
CHICAGO, ILLS.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans. PRICE BAKING POWDER CO. NEW YORK. CHICAGO. ST. LOUIS.



MADE FROM
99.50% PURE CREAM TARTAR.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.

STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"GOOD MORNING" COFFEE PERCOLATOR.

RICHEST, PUREST, BEST
CUP OF COFFEE
EVER MADE.

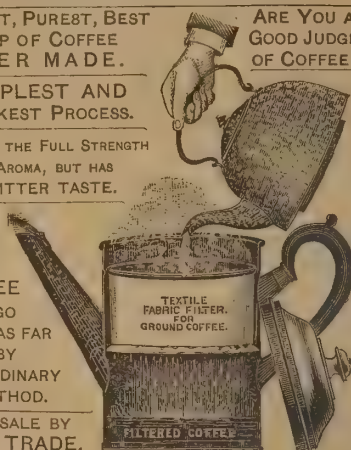
ARE YOU A
GOOD JUDGE
OF COFFEE?

SIMPLEST AND
QUICKEST PROCESS.

RETAINS THE FULL STRENGTH
AND AROMA, BUT HAS
NO BITTER TASTE.

ONE
POUND
OF
COFFEE
WILL GO
TWICE AS FAR
AS BY
ANY ORDINARY
METHOD.

FOR SALE BY
THE TRADE.



IF YOU CANNOT PROCURE IT IN YOUR TOWN,
WRITE TO

MANNING, BOWMAN & CO.
57 Beekman St., New York.
Circulars and Price List sent Free
on Application.

"BILLET"

are

Carefully Selected

French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.



For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.



BLAIR'S PILLS
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.

OPIUM AND LIQUOR HABIT CURED.

WE solicit an investigation of our system and methods, and will gladly send to any one very interesting matter on the OPIUM HABIT DRUNKENNESS and their effects and cure. Physicians specially invited to examine, and if desirous of trying our remedies, liberal arrangements will be made with them.

THE LESLIE E. KEELEY CO., Dwight, Illinois.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Reçamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. CO., 52 and 54 Park Place, New York City.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY-STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

Look after the Baby!

Don't let it grow up weak and puny, when the use of

RIDGE'S FOOD

will insure a robust childhood. It is invaluable, and has stood the test of time. WOOLRICH & Co., on label.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 4.

NEW YORK, THURSDAY, JANUARY 24, 1889.

WHOLE No. 100.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CONTENTS.

Another Wonder.....	43
Aids to Sight.....	42
Antiquity of Cheese.....	42
Analyst Weekly.....	43
Cotton Seed and its Uses.....	39
Coffee Deceptions.....	42
Cigarette Abomination.....	39
Cigar Makers in New York.....	39
Correspondence.....	41
The American Butcher.....	
Domestic Dietetics.....	44
Editorial.....	37
Number One Hundred; Illogical Censure; California Raisins; Fallacies of State Inspection; Metropolitan Slaughter Houses; Electricity and Light; Dressed Beef.	
Ether, Hypothesis.....	41
Fretting.....	42
Fat Poultry.....	45
Flexible Stone.....	43
Grape Culture in California.....	40
Humbugs, Spiritualistic.....	44
Important to Electricians.....	41
Public Schools and Politicians.....	43
Spools for Thread.....	44
Spontaneous Combustion.....	43
The Chalk Cure.....	39
The Deadly Cigarette.....	43
What Beef Costs.....	42

NUMBER ONE HUNDRED.

At this period, when centennial celebrations are especially in vogue, we feel particular gratification in placing before the public the One Hundredth issue of the AMERICAN ANALYST. Thankful for the support our efforts have been rewarded with in the past, and fully appreciative of the continued patronage which attends us now, we are encouraged to look forward with hopeful confidence to a permanent career of successful usefulness. More than four years have passed since we undertook, the pioneers in the effort, the contest against those deadly enemies to human health and happiness, the adulterator and the falsifier of food. It is with heartiest satisfaction we look back, from the standpoint of this centennial issue, over the field on which the struggle has been so pertinaciously and so uncom-

promisingly maintained. To recapitulate the fraudulent devices whose unblushing audacity has been exposed and overthrown through the instrumentality of the AMERICAN ANALYST, would form a list of greater length than we could afford space to in our crowded columns. The whole army of sophisticators, high and low, with their false pretenses of foods, medicines, substitutes, specifics, cure alls and tricky preparations of every character and name, have been revealed in their true light to the world, with almost uniformly disastrous results to themselves and their nefarious devices. Our readers can recall with ease the series of flaming frauds which have been projected, with lavish expenditure of money and curious fertility of advertising invention, upon the public attention during the past few years, only to collapse when subjected to the keen sunlight of honest investigation. The work has been done thoroughly, but it is far from being completed. Human nature will have been raised to a higher plane of moral excellence than it now seems susceptible of attaining to before men shall have ceased seeking to enrich themselves through deception of their fellow creatures. But the sophisticator's field of operations is steadily contracting, and the most venturesome enters it now with full knowledge that his success can be at best but brief. While exposing and denouncing these dangerous frauds, the AMERICAN ANALYST has been performing another and scarcely less valuable service by showing up the folly and truthlessness of the numerous sensational stories with which conscienceless scribes succeed in imposing upon newspaper editors in relation to the prevalence of adulteration. Exaggerating an evil is often as operative to retard its reform as the assaults of ignorant opposition. As already stated, we were the first to enter this particular field of enterprise, and we still stand alone in it; for though we have from time to time been promised companionship, the promise has always failed to materialize. There was a Philadelphia concern, consisting of a lawyer and a few philanthropic dupes, who undertook to engineer an anti-adulteration "crusade" on a national basis, and who for a while afforded a subject of amusement, and then were re-absorbed in the sublimity of their own ineffectiveness. Here in New York, too, was an "organizing" genius who, a couple of years ago, undertook to reform trade and society and, for aught we know, religion, shoe-making, and the universe, by the application of a scheme of "organization," the basis of which was that all his fellow-organizers were to subscribe to his journal, and accept him as their high spokesman. He, too, has been "organized" out of the subject. Then there was the coterie of retail grocers, who were agitated by a "movement" which subsided as soon as the emptiness of its true inwardness was exposed, and who we hope are now more comfortable. Nor should we omit to mention those pair ots who twice have contrived "conventions" at the national capital, where they strutted and fumed, and adjourned, leaving the cause they proposed to sustain, on both occasions, more hopelessly undisposed of than before. Daily journalism also has occasionally ventured into the arena, as in the case of our enterpris-

ing contemporary, the *World*, a year or so ago, but the venture has always been abruptly and speedily relinquished. The difficulty in all these instances, and some others we might cite, lay largely in the nature of the subject, but more in the fact that the persons endeavoring to grapple with it did not come into the discussion with proper equipment, nor with an adequate appreciation of the magnitude of the task they had undertaken. The AMERICAN ANALYST, however, has "got there," and the steady increase of our subscription list indicates that we are there "to stay." Meanwhile, several valuable new features have been added to the journal, the issues have been increased from twenty-four to fifty-two a year, while the subscription price remains unchanged—one dollar a year to every part of the United States and Canada.

ILLOGICAL CENSURE.

The AMERICAN ANALYST, a newspaper published in New York City, has been devoting considerable of its space to the Western dressed beef packers and the butchers' associations—eulogizing the former and damning the latter. We would respectfully suggest to our contemporary that it set its analysts to work on some of the products manufactured by at least one of the gentlemen in whose business methods it sees so much to admire.

The above is from the *Butchers' Record*, of Allegheny, Pa. It seems almost superfluous to state in response that the products of the gentlemen referred to are already being very extensively experimented upon, not by our analysts alone, but by the people of the whole eastern section of the United States. Our contemporary seems to have gone off on a wrong tack. Just so long as Chicago sends the best beef that is received in the New York and other Eastern markets, just that long the consumers will insist upon being supplied with Chicago beef. It is not our eulogy of one thing, or our condemnation of another, that establishes the marked preference for the best article, which causes our rural friend such worry. The housekeeper demands a certain thing, and the local butcher is naturally only too eager to satisfy that demand. And so long as the consumers and the butchers are satisfied, the traffic will continue in spite of malevolent opposition. Supply us, Mr. *Record*, with something better than "those gentlemen" do, and we will deal with you instead.

CALIFORNIA RAISINS.

In another column of this issue we present an interesting summary of the condition of the grape industry in California. A significant element in the consideration of the subject is the circumstance, that while apparent over-production has caused a partial paralysis in the cultivation of grapes for wine manufacture, the culture of special varieties for raisins is notably on the increase. Many thousand acres have been planted during the past year in grapes adapted to raisins, and many growers are re-grafting their vines to the varieties

most suitable for that purpose. There is scarcely any more striking illustration of the possibilities of the soil and climate of the United States in the matter of fruit raising than is presented in the history of the California raisin industry. Any one who, ten years ago, had predicted its present proportions, and its effect on the Mediterranean fruit trade, would have been counted a madman. But there are some weighty facts in this connection which are gradually being accepted everywhere. An exchange puts them thus: "The Golden State now supplies a very large portion of the United States with this product, and it also gives promise of crowding out the raisin of the Malaga vineyards from the English markets. Within the past few years the California output has increased nearly a hundredfold, and with the enormous acreage that has been planted in the past year or two, which will bear fruit in about three years, it is not unlikely that the importation of raisins into this country will practically cease. It has been demonstrated that the California raisin is of a better quality than that of Malaga. During the past summer the holders of the former were much gratified to find that the domestic article is a better 'keeper' than the imported goods. While the foreign product is liable to 'candy' in the warm season, the domestic raisin is such a good 'keeper' as to lead to the remark that it may be difficult to recognize the new crop raisin from that of last year."

THE FALLACIES OF STATE INSPECTION.

By the preamble and resolutions drafted by the recent so-called convention of cattlemen and butchers in St. Louis, we make the following fair and impartial epitome of the reasons why a State inspection of all cattle which are to be used for meat should be had, because: (1.) The Chicago and Kansas beef dressers have opened retail butchers' shops in various cities. (2.) These dressers have combined to protect their interest. (3.) They have forced butchers to sell Western dressed beef by educating the public to demand it. (4.) The beef dressers being large buyers of cattle, exercise a powerful influence on ranchmen and commission dealers. (5.) They have made such a large and favorable market of Chicago that farmers and cattle raisers prefer to take their cattle to that market. (6.) They have utilized beef suet and cotton seed oil to make a cheap and wholesome butter substitute for the poor man, thus enabling him to avoid monopolistic prices demanded for unwholesome grease butter in States where political demagogues have not passed laws for the protection of these grease butter monopolists. (7.) They have succeeded in getting dressed beef into Eastern markets without paying the prohibitory and discriminating rates of freight imposed upon them by railroads, in the interest of live cattle men, local butchers and Eastern stockyards. (8.) They have by enterprise, industry and economy, acquired a competency. (9.) And whereas (this is the milk in the cocoanut), the members of this convention think they ought to have

exclusive control of the entire meat market, and make out of it all they possibly can. Resolved, that the various States pass a law prohibiting the sale of all meat within their border, unless the meat so offered has been killed in such State. Of course it was necessary to give a plausible reason for such a law, so it was added that the beef product must be raised above the suspicion of disease. Such laws are clearly unconstitutional, and, even if lawful, would be impracticable. New Jersey meat could not be sold in New York nor New York meat in New Jersey; but the law framers had not thought of such trifles.

METROPOLITAN SLAUGHTER HOUSES.

The Ladies' Health Protective Association of New York in its annual report stigmatizes the condition of New York slaughter houses in the following language: "From the organization of the Association a gigantic nuisance, scarcely second to the manure cartage and dumping ground, confronted it, viz., the slaughter house system—if it can be called such—where each corporation is a rule unto itself. The committee found every rule of the Board of Health for the protection of the community openly and constantly violated. The unsanitary, brutal and filthy methods of these slaughter houses have been fully described in former reports. Of the large numbers of these establishments for furnishing meat for this great city, not more than one or two could be found that were carried on with any regard to sanitary or even decent methods."

ELECTRICITY AND LIGHT.

In a very interesting discussion of the modern view of electricity, recently published, Prof. Oliver Lodge says that light is an electrical disturbance, and that light waves are excited by electrical oscillations. Our present system of making light artificially, he characterizes as wasteful and ineffective. We want a certain range of oscillation—between 4,000 and 7,000 billion vibrations per second. "Perhaps, speaking theoretically," comments the *Electrical Review*, "this is sound reasoning; but practically, we don't see how anything that serves a purpose as well as we have learned to serve it can be wasteful, nor how, when a thing is accomplished satisfactorily and thoroughly, as thoroughly as we can appreciate it, can be called 'ineffective.' It must be effective because it succeeds, and must be regarded as economical, at least until we find a cheaper means."

DRESSED BEEF.

The magnitude of this interest can best be judged from the following figures: Messrs. Swift & Company sold in New York, for the week ending Dec. 1, 2,152 carcasses of beef, average 688, at 6.18 per lb. At the

same place for the same week 2,432 mutton carcasses, average 47, at 7.55 per lb., and for the succeeding week the following figures are given: 2,514 beef carcasses averaging 671 lbs., at 6.33 per lb.

SPECTACLES IN SURGERY.—Spectacles to be used in surgical operations, lit by means of a small electric lamp, are a new invention. The lamp is arranged to send a beam of cool light on the part to be examined; meanwhile the rims of the spectacles exclude the outside light from the observer's eyes. The current is conveyed to the lamp by wires connected to the small terminals.

London's Celebrated Surgeon Dentist,

DR. GEORGE H. JONES,

Cordially endorses the



and adds: "Unlike bristles, it is harmless in use, and being a most excellent polisher and absorbent, **Thoroughly Preserves the Teeth.**"

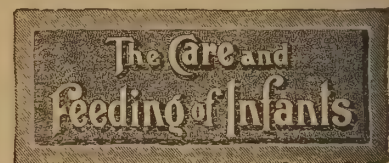
AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mailed

HORSEY MFG. CO., Utica, N. Y.



The Only Perfect Substitute for Mother's Milk.
A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

THE CIGARETTE ABOMINATION.

A VOICE FROM SAN FRANCISCO UPON CARBON-MONOXIDE
AND HÆMOGLOBIN.

There seems to be in the human economy an imperative demand for either stimulants or sedatives. Indeed, the use of one requires the other. If the use of tobacco or any other narcotic depresses the nervous system, there needs a stimulant to restore the equilibrium, and *vice versa*. The demand for and the use of tobacco has increased remarkably during the last decade, until now it has become almost universal in our country. It is estimated that of one thousand men, nine hundred and fifty use tobacco. Cigar-makers say that the year 1888 has been the most prosperous of any year in the history of the trade in this State. There are 300 cigar factories in this city which employ 5,000 workmen. About 175,000,000 cigars and fully 6,000,000 cigarettes have been made, whose value is placed at \$800,000. Besides this, the importations from the East will possibly increase the amount consumed of cigars and cigarettes by another million. If it were possible to estimate the depression of the nervous system, and the loss of heart power produced by the narcotine and the carbon-monoxide, in terms of pounds, we might be able also to estimate the quantity of alcohol needed to restore the normal standard. That good tobacco, used in moderation and at the time when the circulation and nervous action are increased (as after eating), can do little harm, may be conceded, but the trouble arises from the fact that tobacco and alcohol are taken at all times, without regard to the physical or nervous condition and when the accommodating or eliminating power of the system is feeble. As with many other things, the harm from tobacco or alcohol lies not in *use*, but in *abuse*, and the results of this abuse may be found in the enfeebled condition of the nervous system. But while we condone the modern use of good tobacco, we have no words of condemnation strong enough for the use of the cigarette, that abomination of the present day. The contents of the cigarette is generally found to be of imperfectly prepared poor tobacco, in which is a large quantity of nicotine, strongly impregnated with opium, stramonium, or belladonna, while the wrapper is the ordinary quality of paper, whitened by arsenic. The use of this must surely create in the smoker a habit of using opium. Aside from these adulterations, the evil of cigarette smoking arises from the inhalation of the carbon-monoxide, which is so extremely poisonous on account of its strong affinity for the hæmoglobin of the blood. Almost all cigarette smokers inhale and force through the nasal passages the smoke; the narcotine and carbon-monoxide is absorbed by the delicate membrane and produces its effects on the system. No stronger argument against this method of smoking could be found than in the numberless cases of broken down nervous systems among our boys and young men. We have seen many instances of "tobacco heart" among boys of twelve or fifteen years. The presence of amblyopia, which is substantially an affection of the optic nerve, is becoming more prevalent, and is due to the inhalation of tobacco smoke. A celebrated physician declares that he can name seventy different diseases, some of them incurable, which are the result of the use of tobacco. This may be an exaggeration, but it is absolutely certain that many an obscure affection of the nervous system is the result of its abuse. While we deprecate the excessive use of tobacco in adults, we condemn utterly its use in growing boys. The evil effects are already showing themselves, and in a very few years we shall hardly find room in our asylums for feeble-minded youth. It behooves every father of boys to put a stop at once to the practice; and since the State has an interest in the health, both moral and physical, of its future citizens, we believe that some enactment by the legislature to forbid the sale to, or use of cigarettes by minors, would be looked upon with favor. It is the duty of every family physician to explain to those over whose health

he has supervision the evil consequences of the use of cigarettes by their children. It is the duty of the medical, secular and religious press to denounce the use of tobacco by minors. Will they do it?—*Pacific Record*.

COTTON SEED AND ITS USES.

PROFITABLE UTILIZATION OF A FORMERLY DISCARDED
PRODUCT.

The cotton seed which of late years has been put to such profitable uses is steadily increasing in popularity. Heretofore the seed after being taken from the cotton boll was thrown away, but now it is about all put to use and readily sold. From this valuable seed is extracted the much used cotton seed oil, and from the residuum are obtained cotton seed meal, cotton seed bran, and cotton seed hull ashes. The seed after being taken from the cotton gin goes through a "linter machine," which takes off the short staple cotton which the gin does not remove. This short staple cotton is sold mostly to concerns who use it for cotton batting. It is also used for other purposes. After all the fibre is taken off, the bare seed is cracked and the kernel is separated from the hull. The kernel is then ground and put under severe heat or cooked. In the heated state the most oil can be extracted, and it is therefore put into a large iron caldron and is subjected to a heavy pressure. When thoroughly pressed, the residue or meal is in the form of cake. Cotton seed oil is used for numerous purposes, and it is displacing other popular oils, owing to its cheapness and healthfulness, as it is purely a vegetable oil. This variety of oil is used very largely by lard manufacturers, who adulterate their lard with it. Although most people would prefer pure lard, it is claimed that the cotton seed oil adulterated with the hog fat lard improves the quality of the stock. The hog lard contains more than twice as much water as the seed extract, and consequently one pound of adulterated cotton seed oil lard goes much further than the pure stock. Large quantities of the seed oil are yearly shipped from this country to the countries on the Mediterranean where olive oil is produced. It is used almost wholly there to adulterate the olive oil, which is then sold both in this country and in Europe as olive oil from the Mediterranean countries. Most of the sardines are now packed in this new oil, and it proves to be successful. Bakers also buy barrels of the liquid, which they advantageously use in substitution for the more costly lards and greases. Chemists and druggists use considerable also. The white or refined stock is used to quite an extent in the Pennsylvania coal mines for lamp oil. Although the cost is much higher than that of petroleum, the safety of the variety is preferable to the more explosive kerosene. The crude stock is used extensively in the manufacture of soap, as is also the foots or residue left after the oil is made. As above stated, after the oil has been abstracted from the kernel, the caked meal is left as a residue. About 150 mills which utilize the cotton seed use both products, the oil and residue or meal. Most of the residue is sent to England in cake form, where the farmers crack it and feed their cattle with it. A large amount has been satisfactorily used in the West, and now it is being sold in this market, it is claimed, quite successfully. This meal is claimed to excel all others as a feed for cattle. That used in this country is not in the cake form, but ground, and now brings from \$26 to \$26.50 per ton. Last year the prices ranged from \$23.50 to \$24 per ton, the advance being caused by an unprecedented foreign demand. Cotton seed meal is not only claimed to be better, but also cheaper than other meals. In St. Louis there is situated a mill which makes cotton seed bran from the hulls, and claims that it is superior to other coarse feed and costs much less, bringing about \$21.50 per ton. Most of the mills burn the hulls of the seed for fuel and sell it for fertilizing purposes. These ashes are bought by farmers in conjunction with the meal and mixed by them for fertilizer. This mixture is said to contain an abundance

of potash and phosphoric acid, which have very powerful fertilizing properties. The ashes are worth from \$30 to \$32 per ton. This fertilizer is not exported, but used here, in this country mostly in the Connecticut valley, by the raisers of tobacco. The supply is limited, and dealers say they could have sold twice as much if they had it.—*Commercial Bulletin*.

THE CHALK CURE.

A NEW METHOD OF TREATING CONSUMPTION.

A German physician, Dr. Louis Halter, having observed that workers at the chalk kilns in his country do not suffer from phthisis, deduced from this the theory that the high degrees of heat to which these laborers were subjected was the cause of their immunity. The workmen are exposed once or twice daily from ten to thirty minutes to an intense heat, the bodily temperature being raised sometimes as high as 160 deg. Fahr. with consequent increase in pulse and respiration, diaphoresis and rapid tissue changes. They drink very large quantities of water and considerable alcohol. Dr. Halter says that the temperature of air in the lungs is normally about 100 deg. Fahr., which is that most favorable to the development of the tubercular bacillus. If the inspired air be raised to the temperature of say 113 to 122 degs. the lungs will be heated beyond the point favorable to the growth of the bacillus. The practical applications of this theory as proposed by Dr. Halter are hot baths, inhalations of dry air of a high temperature, and the addition of antiseptics to the hot air when desired. Forced inspirations are interdicted and inhalations are made through the mouth only, as the nerve terminations in the nose are too sensitive to bear the heat.

Independently of Dr. Halter, an American physician, Dr. Weigert, residing in Berlin, has been making experiments in the same direction. He finds that the tubercle bacillus dies outside of the body at a temperature of 106 degs. Fahr., and is unfavorably affected by one of 100 degs. Experiments have been made on patients beginning at a temperature of from 104 to 140 degs. Fahr. and gradually raising it as high as 176 degs. The air was perfectly dry and the patients bore it well, continuing to inhale it for from three to four hours a day for a month. The general effects are represented as having been remarkable, the patients becoming quite robust; and the bacilli in the sputum which had been very numerous, rapidly diminished in number and finally altogether disappeared.

It had been suggested by one commentator that perhaps the chalk dust might have something to do with the immunity of the laborers, but Weigert's experiments seem to show that if there is anything in the new treatment, hot air is alone to have the credit of it.

Both Halter and Weigert use dry air; Krull, another experimenter in the same line uses moist air, his work ante-dating that of the other observers named, and favorable results have been reported by him also. So the idea is not wholly new, but is very philosophical.

CIGAR-MAKERS.

HOW THEY WORK AND EXIST IN NEW YORK.

Our sprightly young contemporary, *The Metropolis*, in its issue of last week, published a very instructive description of the experiences and struggles for existence of the cigar-makers in this city, from which we condense the following:

Over 30,000 men, women and children are employed in the tobacco industry of this city, of whom about 16,000 are cigar-makers proper, the rest being cigarette-makers, strippers, bunchers, packers, pasters, box-makers. More than 6,000 cigar-makers are women, girls and small children. Some branches of the trade are almost monopolized by girls. For instance, the making of cigarettes. The nationalities which predominate

among the cigar-makers are the Germans, Bohemians and the English; but there are also quite a number of Poles, Hollanders, Cubans and Hungarians, with a sprinkling of Spaniards, Americans, French and Russians. The best cigar-makers are the Germans and Bohemians; the Cubans and Spaniards rank next. The Poles are ruining the trade here by cheap work done in basements in Division Street and its neighborhood. They work, as it is termed, "below zero," just as the Chinese are doing in San Francisco. The Cubans and Spaniards make a special grade of goods called "Spanish work." Cigar-making has of late years become so unprofitable to the working people, that the average weekly wage ranges only from \$6 to \$7. Even the best workers, making cigars by hand, average only \$15 per week if working full time all the year round on first-class material; but this fortunate class comprises hardly fifteen per cent. of all cigar-makers. The poorest class of workers average only \$5.50 per week, and therefore their wives and children must help by their work to swell the income of the family. The working time is about eight hours a day—a result of their strong organization. Eleven manufacturing firms own tenements in this city in which they house their workers under the so-called tenement-house cigar-making system. These mean firms keep the tenement horror alive by employing 546 entire families. Counting at the lowest estimate, five working members to each family would give us the correct number of tenement-house cigar-makers, viz., 2,830. Each family has either two or three rooms, small, poorly ventilated and dark. In these accommodations they have to pay \$3 more for their monthly rent than they would if they were allowed to live where they like. But—and here the fine game of the cigar manufacturing landlord comes in—no rooms, no work, *S.*, these poor people have only the alternative to accept low wages, high rent and long hours of work (fourteen hours daily on an average) or walk the streets and starve. In these houses, which cannot be called homes, one finds the greatest filth, misery and degradation imaginable. To sensitive persons a description of the horrors would be insupportable. It is happily true that "one-half the world does not know how the other half lives." Cannot these conditions be amended or abolished? For years the cigar-makers have banded together in unions to suppress this terrible, inhuman system. Some headway they have made in their endeavors—for which they have been called conspirators and revolutionists. If American workmen were obliged to live in this manner they would have been revolutionists long ago. There are 1,800 cigar factories in New York City. Of these the great majority employ from one to fifty hands each. Large factories, of which there are 350, employ from 50 to 500 hands, while the largest class of factories, of which there are only ten, employ from 500 to 1,000 hands. The vital statistics gathered in the course of years by some organizations show that among the cigar-makers lung troubles are of common occurrence. Women must frequently stop work to recuperate from the bad effects tobacco has upon them. There is another danger which threatens the cigar-makers and promises to thin the ranks already thinned by competition among themselves. Last year bunching machines have thrown 400 persons out of work. Yet cigar-making machinery is only in its infancy. In the opinion of many cigar-makers, the trade is leaving New York City and will never be as good and prosperous as it was in past years. New York is fast losing its former prestige by manufacturing cheap cigars in too great quantities. Since 1864 the cigar-makers have made determined efforts to organize themselves and through organization to better their condition. They have succeeded in accomplishing a great amount of good to their craft. The Cigar-makers' International Union of America has been in existence for thirty-five years. The number of its members is very large and probably exceeds 25,000. Of the cigar-makers in this city about 8,000 are organized. They stick to their organizations faithfully and are among the best, most intelligent and

most energetic workingmen. Since 1879 the International Union has paid out for strike benefits \$369,833, for sick benefits \$182,425, for death benefits, \$21,843, and for traveling benefits \$196,882. The present fund in its treasury amounts to over \$253,000. The powerful agitation for the suppression of the tenement-house system has resulted in greatly mitigating that evil. Their union label is an effective weapon against unfair employers and has brought many of them to terms. At present it is used by 386 manufacturers in this city alone, who have to observe certain rules of the union for the privilege of using it. Manufacturers who sell tenement-made goods are debarred from its use.

GRAPE CULTURE IN CALIFORNIA.

STATISTICS OF THE PRODUCT IN 1888.

The daily papers of San Francisco have, in summing up the commercial interests of the State, devoted considerable space to the wine industry. A summary of the statistics furnished shows that, while the production of the vineyards was not so great as had been expected early in the season, the total yield during the past year was 17,000,000 gallons—an increase of a million gallons over the previous year. At the beginning of the season the vines gave evidence of producing a very large yield, and in August it was estimated that the production would be 21,000,000 gallons. After that, however, the State was visited by two weeks of hot weather, followed by rain, with the result of a diminution of at least one-fourth of the crop. Of this amount, at least 4,000,000 gallons will be distilled, producing about 600,000 gallons of brandy. The balance of 13,000,000 gallons will consist of dry and sweet wines. During the past year over 7,000,000 gallons have been exported, and there was a home consumption of five or six millions. It will therefore be seen that there is no over-production at the present time. The total shipments of wine, the value of which is approximated at 40 cents a gallon, from San Francisco, were 7,170,634 gallons, and of brandy 428,135 gallons. The shipments in 1887 were, wine, 6,901,771, and brandy, 472,452 gallons. The heaviest shipments to one port were to New York, where 3,002,568 gallons of wine and brandy were sent. The shipments to the same place in 1887 amounted to 1,688,227 gallons. In 1887, 258,248 gallons were shipped to foreign ports, while the shipments last year increased to 398,879 gallons.

Regarding the condition of the vineyards, the *Alta* remarks that the planting of wine grapes has been very light during the past two or three years; the large increase in the production of wine, which so many have predicted, will not occur. With the vines now planted and in bearing, a very large crop in a favorable year would be 25,000,000 gallons. In all favorable years with wet seasons, there is always liable to be heavy spring frosts, which cut off the crop considerably in the bay counties. During dry seasons the vines in the interior counties suffer from sunburn, and the result is that the large crops expected fall far short. The reason that few wine grapes were planted during the last two years is due to the low price of fresh grapes and wines. The prices of wine grapes in most counties has averaged from \$8 to \$15 a ton for ordinary kinds, and from \$20 to \$30 for fine varieties, such as Cavernates and Sauterne. The prices of low wine of the '87 vintage were higher in the early part of the season than in the latter part of the year. In January, dealers were paying from 16 to 20 cents a gallon for good wine. In July the ruling quotations ruled from 12 to 15 cents. When it was discovered that the vintage of '88 would not be a heavy one, prices again arose, and dealers are now paying from 18 to 25 cents a gallon for '87 wines. The past two years have been very hard ones for viticulturists, owing to the low price of grapes and wines, but the future looks brighter than it has for some time.

The exports are steadily increasing, and, as the planting of vines has comparatively stopped, the consumption will soon exceed the production. When that time comes, vine planting will again be commenced in earnest. Many wine growers have been discouraged, and some are pulling up their vines and planting orchards. By those thoroughly posted on the subject this is considered an injudicious movement, and viticulturists are advised to let their vines remain if they only clear expenses at the present time. The raisin growers, however, have been making handsome profits for the past few years, and the result is that a great many thousand acres of raisin varieties have been planted. Many growers are grafting over wine grapes to the Muscat varieties for raisin culture. The table grape industry has flourished for the past two years, owing to the demand for fresh grapes in the Eastern States, good shipping grapes bringing from \$30 to \$50 per ton. Owing to the dry season, the table grapes last year were not as large and showy as they were in former times, and the prices realized in the East were not as good as in previous years. Before vintage time, when prices of grapes were very low, the Viticultural Commission advised growers to dry their grapes. Those who followed the advice were well satisfied. A few thousand tons of dried grapes were produced and sold at 2½ and 3¼ cents a pound—equal to from \$12 to \$20 a ton for fresh grapes. The commission will send some of these dried wine grapes to France and England to ascertain their value in those countries, and the prospects of their market. The drying of wine grapes has been so far successful that it will undoubtedly be carried on to a still greater extent during the present year. Vine diseases have caused great havoc in various sections of the State. *Phylloxera* is still spreading, particularly in counties where it has existed for a number of years. A new disease has destroyed thousands of acres of vines in the southern part of the State. This disease has baffled all experts, and unless checked it will not be many years before all the vines in Southern California are killed. A report of the appearance of this disease in the northern part of the State has not been confirmed. The northern viticulturists, having been warned, are anxiously watching for its appearance. The vines killed by these two diseases will greatly exceed the number planted during the past year.

THE WORLD'S INCREASE.—The population of the civilized world in 1850 was barely 300,000,000, and is now over 422,000,000, having increased 42 per cent. in one generation.

SALICYLATED EGGS.—M. Lambert, the pharmacist to the Bron Insane Asylum, near Lyons, France, has discovered that salicylic acid is being used to preserve eggs. It has been employed in the same way as lime, the users claiming that it did not penetrate the shell. It has been shown, however, that this claim is incorrect, as the acid is soon found in both the white and the yolk. To detect the acid in the white the albumen is to be beaten with a little water, and, on the liquid being acidulated and shaken with ether, salicylic acid may be easily separated and identified by the usual tests. The same process answers for the yolk, but it must be first coagulated by heat to avoid the formation of an oily emulsion difficult to manage.

BENIGNANT BACTERIA.—In a recent communication on the subject of bacteria, Dr. Weibel mentions (*Pharm. Centralhalle*) a class of putrescence vibrios which flourish in offensively putrid matter. As has been very clearly set forth in the new work on "Ptomaines and Leucomaines," by Vaughan and Novy, bacteria induce disease through the production of chemical poisons by the growth of the germ, each specific pathogenic micro-organism producing its own characteristic poison. The office of the particular vibrios observed by Dr. Weibel appears to be the destruction of the offensive products of decomposition upon which they feed, and which they transform into simpler and less offensive combinations. Weibel states that these benignant bacteria have the power of developing in very dilute nutritive solutions where they hold their own with other bacteria, and he thinks it possible that the self-purification of streams may be a result of the activity of these micro-organisms.

CORRESPONDENCE.

THE AMERICAN BUTCHER.

THE TRUE INWARDNESS OF HIS POSITION.

NEW YORK, Jan. 14, 1889.

Editors Analyst.—The butchers of this country are an unusually intelligent class, and like every other class of business men, are carefully looking after their personal interests. Every wise man buys where he can obtain the goods he wants at the lowest price so that he can sell them at as good or better profit as his competitors. If he can find an article which he can honestly sell to his customers as the best of the kind at a fair price and make a good profit, the shrewd merchant does not question as to the locality from whence it comes, nor does he descend to the meanest of all methods, that of allowing sectionalism or blinded prejudices to sway him. It is fair to assume that human nature is alike, and that a business man selling meat is not different from any other merchant. Yet this does not appear to be borne out so far as butchers are concerned, judging from the kind of articles that are printed in the so-called butchers' organs. Either these organs do not represent the butchers' views or the butchers are different from every one else. A brief review of the butchers' so-called organs will, to some extent, clear up this mystery. Nearly every issue of these papers contains a sensational article, based on gross misstatements, from the fertile brain of an individual styling himself Chris. Brokate, Secretary of the Butchers' National Protective Association. If there were no grievances, imaginary or otherwise, there would be no need of any butchers' protective association, and if this association did not exist there would be no well-salaried office for Mr. Chris. Brokate to fill. He would have to go back to earning his daily bread by the sweat of his brow in wielding the cleaver, if he ever knew how. This explains the seeming mystery and also accounts for Mr. Brokate's astounding stories of various mares' nests discovered by him. It is but fair to add that none of the senseless stories related by him with so much gusto, have ever stood the light of a cross-examination before any of the Congressional committees, but when he has had the courage to appear, the stories so glibly told in the butchers' organs, have been considerably toned down by him and then were completely disproven before these committees. Whenever Brokate has been met by any one conversant with the hollowness of his pretensions he has had to resort to low invective, or completely sink out. A further examination of these organs shows that they exchange their canards with wonderful unanimity, quote them, rewrite them, and in various ways ring the changes on them, evidently to impress their readers with the pressing necessity of maintaining these sheets for fear that the "Chicago Big Four" would come some night and gobble up the butchers' organs, butchers, slaughter-houses, meat markets, Senate and House committees, consumers, families, husbands, wives, babies and all. It is horrible to contemplate, but the Pittsburgh butchers seem not to have been frightened, for in one of the Pittsburgh *Advocates'* columns we find this significant wail:

"Our solicitor has been calling upon the butchers lately in the interest of this paper. They have not responded as liberally as they should, in view of the fact that the paper is published in their interest and that our expenses are far in excess of the revenue derived from the Association. We hope the butchers, especially the wholesalers, will give us a little practical encouragement."

The astounding inconsistencies of these papers, who seem to have but one idea, is most remarkable. Wherever they can say anything against Chicago beef, be it true or false, they say it and naturally prefer the false because it is always more sensational. How long will it take so bright a lot of men as the American butchers to see through this little game? CLEAVER.

IMPORTANT TO ELECTRICIANS.

The *Sanitary News* announces that the National Electric Light Association will hold its next meeting in Chicago on February 19 to 21 inclusive. The intention is to present an extensive exhibition of electrical appliances of all descriptions, and arrangements are in progress to extend every possible facility and opportunity to make the exhibit one of great value to all interested in electric light and power. Matters pertaining to this interest will be discussed, and in all probability this meeting, in its scope and value, will be the most important ever held by this body.

THE ETHER HYPOTHESIS.

EXPERIMENTAL PROOFS OF ITS MATERIAL EXISTENCE.

Prof. G. F. Fitzgerald, in his Presidential address before the section of Mathematical and Physical Sciences at the Bath meeting of the British Association, discussed the bearing of the experiments recently made in Germany by Hertz, to prove the material existence of the ether. As the subject is of such vital importance to scientists, a short account of the experiment and its influence may not be without interest. Hertz based his investigations on the modern conception, well set forth in Clerk Maxwell's theories, that electro-magnetic induction must be due to a stress in an intervening medium—the hypothetical ether, and that light and heat phenomena are to be explained on the assumption that they are due to electro-magnetic disturbances of a rapidly alternating nature; that the various phenomena of electric attraction and repulsion cannot be due to an action at a distance, but on the result of action through a medium, since they vary with the nature of the dielectric; that a rapidly alternating current would produce stresses in the supposed ether which would be propagated as waves with a definite velocity. Again, the practical unit of resistance, the British Association ohm, is that resistance which is equal to a velocity of 1,000,000,000 centimetres per second. It follows, then, that the resistance of any conductor is equal to the time required for the passage of a unit of electricity through it, and that conductors have definite time-constants, as stretched strings have definite periods of vibrations. A secondary circuit will thus have the maximum inductive effect produced in it by impulses whose time constant of transmission is the same as its own, just as, continuing our analogy of stretched strings, a string will respond best to impulses which exactly correspond in time to its own. Hertz produced in the primary circuit impulses of an extremely short but definite period—one hundred millionth of a second. The length and resistance of the circuit was so arranged that this gave a wave length of two metres. The secondary or receiving circuit had a short air-space in it. By the inductive action of the primary circuit upon it, sparks were seen to leap across this air-space, the sparks being most pronounced when the circuit was at a distance of two metres, or some multiple of it, from a reflector to the primary circuit. This reflector seems to have been simply a wall of the room. Now, as the action of one string upon another is not an action at a distance, but through a medium—the air, so these results seem to show that the electro-magnetic action must have taken place through a medium. The material existence of the hypothetical medium—the ether—is thus rendered pretty certain. The assumption of a medium such as the ether was a means of co-ordinating the phenomena of magnetism, heat and light. These classes of phenomena seemingly so distinct, and in a sense widely separated, were until late years considered to have very little, or nothing, in common. However, researches in radiant heat and in spectrum analysis showed that heat and light were more closely related, and must both be due to disturbances transmitted by a

medium. A little later on, the close relation in the transmission of light, heat, and electro-magnetic disturbances was demonstrated, and Clerk Maxwell developed his theory of light, that it was due to the action of stresses of a rapidly alternating character in the ether, and that these were similar to the stresses due to electro-magnetic action. As a proof of the correctness of his theory, he showed that the velocity of electro-magnetic impulses in a non-conductor was about equal to the velocity of light. The results of Hertz's experiment seem to prove the correctness of his theory in a striking manner. The admirable train of reasoning which led Maxwell to this theory by clear methods of induction, are comparable only to that masterpiece of inductive reasoning on the part of Adams, which, in 1846, led to the discovery of the planet Neptune. The electro-magnetic theory of light satisfactorily explains why the waves of light and heat have transverse rather than longitudinal vibrations. It remains for careful investigation to accurately ascertain the nature and property of the ether, and to reconcile some contradictory conceptions which demand that it have such high rigidity and elasticity, when its density is almost unthinkably small when compared with water. Scientists may now congratulate themselves upon their courage in adhering to the conception of an all-pervading medium, such as the ether, in spite of the jeers of certain metaphysicians, because they were ignorant of its possible structure and many of its laws. From the results of this and similar experiments we may look for a great change in text-books on the subject of attraction. They will treat the attraction of gravity and attraction in general, as due to stress in the ether and not to action at a distance. The immense gain in clearness to the beginner will be appreciated by those who remember how they struggled over these knotty points in the outset of their scientific studies. Then, too, the various, and to some extent often inexplicable, manifestations of chemical affinity may be explained and co-ordinated by being proven to be a form of ether-stress. We may confidently look to inventive genius to discover some means of utilizing the energy of the different forms of ether-stresses, and the ether-engine may not after all be a dream. The subject is at least fascinating and promising and may give us a key to the solution of that important scientific and commercial problem—how to utilize the solar energy directly as a motive power.—*Prof. W. M. Stine in Pop. Sci. News.*

PHILADELPHIAN—I wish you, sir, to observe the color of that water I have just drawn from the pipes. Councilman—Oh, that is all right. The color is not due to impurities, but to the air in the water. "Air?" "Yes, you see, as the limpid streams which enter the Schuylkill go leaping and bubbling and singing through their mountain glens the soft, brownish Indian summer atmosphere permeates the liquid, and gives it that pleasing, poetic, terra-cotta hue."—*Philadelphia Record.*

GEORGIA HEALTH BOARD.—Dr. Sims, member of the Georgia Legislature from Lincoln, has in course of preparation a bill creating a State Board of Health. The bill will provide for a board consisting of five physicians in good standing, who will have charge of the quarantine regulations of the State, without, however, clashing with the authority of the local boards. One result of the creation of a State Board of Health will be to make uniform the quarantine regulations. The friends of the measure believe that the presence of a State Board will do much to allay the excitement incident upon epidemics.

ELECTRIC PROSTRATION.—Several cases of the peculiar malady, electric prostration, are reported from France. It effects workers under electric light. The light exceeds 100,000 candle power, and it would appear that it is this excess of light, and not the heat, which produces the nervous symptoms. A painful sensation in the throat, face, and temples is first noticed, then the skin becomes coppery red, and irritation is felt about the eyes; much lachrymation ensues, and these symptoms then disappear, while the skin peels off in five days. The effects are comparable to those produced by walking over fresh snow in the sunlight.

WHAT BEEF COSTS.

THE PROFITS OF THE RETAIL BUTCHER EXHIBITED IN
DETAIL.

The subjoined article, which appeared in the *AMERICAN ANALYST* of January 10th, has attracted such wide attention and has evoked such numerous orders for copies of the issue containing it, that in order to meet the demand we feel constrained to republish it:

The question has frequently been asked why it is that when the newspapers quote the wholesale price of beef at from four to seven cents a pound, the consumer is compelled to pay as much as twenty or twenty-three cents a pound. To answer this question intelligently the *AMERICAN ANALYST* detailed one of its staff to make the necessary inquiries, and we give herewith the itemized results. A carcass of beef, weighing 750 lbs., cut into loins, rounds, chucks, ribs, plates, shanks, flanks, kidneys and necks, will make the following product, at the retail price stated. The average wholesale

price of such a carcass in New York is seven cents, or \$52.50 for the carcass, which, when retailed, as shown by the table subjoined, would make \$92.12, or a profit of \$40.62 upon an investment of \$52.50, which would certainly appear to the outside observer as a pretty good profit to the retailer. It is true that from this profit must be deducted the expenses of the retailer's business; but nevertheless, it also proves conclusively that the retail butchers have no grounds for complaint against the Chicago dressed beef men, nor can the public have unless it is that the prices of meat at retail stores are as high as they were when cattle sold at higher prices; but the remedy for this should be demanded of the retailer, whose prices have not been reduced in proportion to the wholesale price. We may add here that the retail prices given are the lowest prevalent, and where there is any variation, it will be found that the prices demanded by retail butchers are somewhat higher. In any case, it should be borne in mind that as for quality Chicago dressed beef is always the best, having the advantage of more careful selection, better dressing, and consequent tenderness.

cheese. Now who is so desirous to eat cheese, must eat it after other meate, and in a little quantity. A penny-weight according to the old saying, is enough; for being thus used it bringeth two commodities—first, it strengtheneth a weak stomach; secondly, it maketh other meates descend into the chief place of digestion; that is the bosom of the stomache, which is approved in 'Schola Salerni.' But old and hard cheese is altogether disallowed, and reckoned among those ten manner of meates which engender melancholy, and bee unwholesome for sick folks, as appeareth before in the chapter of Beefe."

COFFEE DECEPTIONS.

HOW COFFEE IS IMITATED IN GERMANY.

Our foreign exchanges frequently report the detection of food imitations, exhibiting considerable ingenuity of contrivance. The following two samples are reported by J. Konig in the *Zeitschrift für angew. Chemie*, No. 22:

Staining Coffee Berries.—Berries are often roasted with addition of roasting syrup, which unsavory article the author found to consist of: Water, 26.21; fermentable sugar (dextro-glucose), 45.80; unfermentable bodies and dextrin, 37.45; ash, 0.54. Its use is said to be in preserving for a long time the delicate aroma of the berries; but, according to the author, it really constitutes a fraud. Not only does it make the coffee decoction look stronger, but it enables the roasted berries to hold about 7 per cent. more water than they otherwise would.

Artificial Coffee Berries.—A sample submitted to the author for analysis looked very much like the real article, only the berries had all precisely the same shape, which is not the case with the genuine product. The result of the analysis was as follows: Moisture, 5.14; nitrogenous matter, 10.75; fat, 2.19; non-nitrogenous matter, 76.76; woody fibre, 3.96; matters soluble in water, 29.88; ash, 1.20. Microscope revealed wheat starch. The berries, therefore, consisted, no doubt, of roasted wheat flour dough of low quality. They are eagerly bought by retailers, and afterward mixed to an extent of sometimes 50 per cent. with genuine berries.

THE COST OF BEEF.

One Steer, weight 750 lbs.—Cut as below.

PRODUCT.	LBS.	CUT PRODUCT.	LBS.	PRICE PER LB.	AMOUNT.
				Cents.	
Loins.....	159	Porterhouse Steak.....	55	23½	\$12.93
		Sirloin Steak.....	85	21	17.85
		Suet.....	19	4	76
		Round Steak.....	74	17	12.58
2 Rounds.....	164	Boiling Piece.....	16	7	1.12
		Roast Rump.....	39	15	5.85
		Soup Shank.....	25	5	1.25
		Shoulder Steak.....	74	11	8.14
2 Chucks.....	138	Boiling Pieces.....	64	7	4.48
		Roasts.....	74	19	14.06
2 Ribs.....	74	For Salting.....	120	7	8.40
2 Plates.....	120	Boiling Pieces.....	21	7	1.47
2 Shanks.....	46	Soup Bones.....	25	5	1.25
		For Salting.....	13	7	91
2 Flanks.....	18	Flank Steak.....	5	11	55
		Kidneys and Suet.....	31	4	1.24
2 Kidneys.....	34	Necks and Bones.....	7	4	28
2 Necks.....	7	Shrinkage in Cutting.....	3	..	...
Total.....	750 lbs.		750 lbs.		\$93.12

FRETTING.

A FOOLISH WASTE OF ONE'S OWN AND HIS NEIGHBOR'S
COMFORT.

There is one sin which it seems to me is everywhere and by everybody underestimated, and quite too much overlooked in valuations of character. It is the sin of fretting. It is as common as air, as speech—so common that unless it rises above its usual monotone, we do not even observe it. Watch any ordinary coming together of people, and see how many minutes it will be before somebody frets—that is, makes more or less complaining statements of something or other, which most probably everyone in the room, or the car, or the street corner, as it may be, knew before, and which most probably nobody can help. Why say anything about it? It is cold, it is hot, it is wet, it is dry; somebody has broken an appointment, ill-cooked meal; stupidity or bad faith somewhere has resulted in discomfort. There are always plenty of things to fret about. It is simply astonishing how much annoyance and discomfort may be found in the course of every day's living, even at the simplest, if one keeps a sharp eye out on that side of things. Even Holy Writ says we are born to trouble as the sparks fly upward. But even to the sparks flying upward in the blackest smoke, there is a blue sky above; and the less time they waste on the road, the sooner they will reach it. Fretting is all time wasted on the road.

ANTIQUITY OF CHEESE.

ITS OCCURRENCE IN SCRIPTURAL AND CLASSICAL LITERATURE.

Cheese and curdling milk are mentioned in the Book of Job. David was sent by his father, Jesse, to carry ten cheeses to the camp, and to see how his brethren fared. "Cheese of kine" formed part of the supplies of David's army at Mahanaim during the rebellion of Absalom. Homer makes cheese form part of the ample stores found by Ulysses in the cave of Cyclop Polyphemus. Euripides, Theocritus, and the early poets mention cheese. Thomas Coghlan in "The Haven of Health," 1584, says: "What cheese is well made or otherwise may partly be perceived by an old Latin verse translated thus: 'Cheese should be white as snow is, nor full of eyes as Argos was, nor full of spots as Lazarus, nor old as Mathuselah was, nor rough as Esau was.'" Master Tusser, in his book of Husbandrie, addeth, "other properties also of cheese well made which whose listeth may read. Of this sort, for the most part, is that which is made about Bambrurie in Oxfordshire; for of all the cheese (in my judgment) it is the best, though some prefer Cheshire cheese made about Nantwich, and others commend more the cheese of other counties, but Bambrurie cheese shall go for my money, for therein (if it be of the best sort) you shall neither taste the rennet or salt, which be two special properties of good

AIDS TO SIGHT.

THE NECESSITY AND RESPONSIBILITY OF WEARING
GLASSES.

There still exists quite a prejudice in the minds of many against the use of glasses. This prejudice is not wholly confined to the laity, but is shared by many excellent physicians. It is due principally to the ill effects of poorly adjusted glasses, and partly to a lack of knowledge of the fact that if glasses are needed, it is altogether possible to learn what ones are needed, and to so adjust them as to be a benefit to the eyes and in every case to avoid doing injury. By far the greater number of glasses that are now worn are fitted by the individuals who wear them, that is to say, a man concludes he needs glasses and proceeds to an optician's store and selects a pair that he thinks suits him. It is needless to say that persons under forty years of age run some risk by so doing. Neither is it altogether safe for those over that age, though if the difficulty be only a loss of accommodation or power to see objects at a short distance from the eyes, then a serious mistake is not likely to be made. Some opticians assume the responsibility of fitting any and all cases that apply to them. As well had the druggist essay to treat all cases of diseases that may apply to him for medicine. Quacks play no little part in lessening the confidence of the people in the efficacy of properly adjusted glasses. They know but little

or nothing of the eye and its needs, and it but too often happens that the patient could have done better in fitting himself. Unquestionably, the necessity for wearing glasses is becoming much more common than formerly, and the reasons for this are very apparent. All eyes that are not myopic (near sighted) are in active service at all times, except when they are closed or fixed upon an object that is twenty feet or more distant. It is easy to imagine how little rest the eye gets during the day, when its owner lives in a city. The varieties of employment in which the eyes are brought into constant and unremitting use during the entire working hours of the day, are rapidly increasing. Such work makes manifest many minor defects of vision that would pass entirely unnoticed but for the severe tax on the eyes. Never before has reading formed so important a part in the lives of so many persons as now. As civilization advances the demands for acute vision must increase. It is not generally known that it is the exception and not the rule to find eyes that are perfect in shape. It does not follow, however, that all eyes that are not perfect in shape should have glasses fitted to them. The purposes for which they should be prescribed are, first, to prevent disease of the eyes from "eye-strain;" second, to aid in the cure of certain diseases by giving the eyes rest; third, to enable the patient to better pursue his avocation in life, and, fourth, for his comfort. As a rule, spectacles add nothing to the appearance of the wearer, and they are always a source of inconvenience. Unless there is a definite object to be attained by their use, patients are better off without them. Nearly every case of myopia should be corrected with glasses. Other errors of refraction should be corrected only when they interfere seriously with vision or give rise to disease or decided discomfort to the patient. The degree of error bears no definite relation to the necessity for correction.

—*Med. Review.*

THE DEADLY CIGARETTE.

ITS EFFECT UPON BOYS.

Says the *New York Medical Journal*: "In an experimental observation of thirty-eight boys, of all classes of society and of average health, who had been using tobacco for periods ranging from two months to two years, twenty-seven showed severe injury to the constitution and insufficient growth; thirty-two showed the existence of irregularity of the heart's action, disordered stomachs, coughs and a craving for alcohol; thirteen had intermittency of the pulse, and one had consumption. After they had abandoned the use of tobacco, within six months one-half were free from all their former symptoms, and the remainder had recovered by the end of the year."

A TERRIBLE WARNING.

Henry P. Hatcher, son of Florist J. C. Hatcher, of Amsterdam, N. Y., is threatened with blindness from the effects of excessive cigarette smoking. The left eye is affected and he cannot see.

SPONTANEOUS COMBUSTION.

THE PHENOMENON ATTRIBUTABLE TO ADIPOSE DISPOSITION AND NOT ALCOHOLISM.

That increased combustibility does exist cannot be denied, though at first sight it is not so clear to what it owes its existence. In the doctrine that increased combustibility in bodies is due to excess of fat, Dupuytren has advanced the only explanation capable of setting the subject at rest, and on a true basis explaining rationally and philosophically the cases of so-called "spontaneous combustion."

When we consider the amount of fat some bodies contain, the subject grows even clearer, and a review of the cases demonstrates that the incineration was always most extensive in the skin and subcutaneous adipose

tissue, and other places where fat is abundant, and least marked in organs and regions with less fat. The fatty degeneration of various organs and structures, the intermuscular and subcutaneous adipose tissue, along with the masses deposited on other parts of the body, all present a body of oleaginous matter amply sufficient to account for the combustion, and which, when once ignited, would tend rather to burn *in situ* than to flow out, thus explaining the greater destruction of the corpse than of objects in the vicinity.

Regarding the influence of alcoholic indulgence in these cases, it has been conclusively proved that tissues soaked in alcohol do not burn more readily than others not so treated, and it is only as a stuporifying agent, and in its tending disposition of fat in the body, that alcohol aids in increasing its combustibility.—*Cin. Med. Times.*

THE WEEKLY ANALYST.

HOW THE NEW PLAN IS GREETED BY THE PUBLIC.

(*San Francisco Commercial Record*, Jan. 10.)

The ANALYST has commenced the year by making its appearance as a weekly instead of a semi-monthly journal. In this more frequent issue it will greatly increase its laudable power of exposing the frauds that exist in the adulterations of food and many other products. We wish it a largely increased circulation.

A BURNING SHAME.

SUBVERSION OF THE NEW YORK PUBLIC SCHOOLS TO THE INTERESTS OF POLITICAL SPOILSMEN.

The following pointed and truthful statement of the situation is from *Science* of January 18:

We have frequently had occasion to comment upon the condition of the New York City schools during the past year. This condition, and the influences that are at work in them, have far more than local interest. At the organization of the Board of Education for 1889, which took place last week, the controlling influence of the political machines was again made manifest, and those who had hoped for some improvement in this respect were bitterly disappointed. Two members of the board, who had expressed themselves publicly as in favor of a change, deserted their colleagues at the critical moment. The most contemptible and discreditable political methods had been used to bring this result about, and it again places in the president's chair the man whose previous course we so thoroughly disapproved of in our comments at the time of the contest of last spring. It is a serious matter, also, that the great city newspapers either keep their readers in ignorance of what is going on or else endeavor to have them sympathize with it. It is the simple fact that the New York City schools to-day are in the hands of the political spoils-men, and they use them to provide places for themselves and their friends, and to perpetuate abuses from which they derive personal benefit. From the president of the Board of Education and the superintendent of schools, down to the very janitors, there is a mass of intrigue and chicanery which is a disgrace not only to the city of New York, but to the country.

ICE FAILURE.—The ice crop apparently promises to be short all around. Even Duluth and the dwellers on the line of the Northern Pacific Railroad find the weather so capricious that land and water are alike disappointing. The other day it was wheat failing, now it is ice. In the Puget Sound region they have been obliged to adopt artificial methods of congelation to procure the necessary supply in ordinary seasons. Both Seattle and Port Townsend have factories of ice. The great and growing city of Tacoma gets its supply by rail from Idaho and Montana, where Nature's ice-house is never empty. What would be thought of supplying New York by rail from the Rocky Mountains? In the event of a real ice famine such a thing would be within the possibilities.—*Boston Transcript.*

ANOTHER WONDER.

DIAGNOSING DISEASES BY MEANS OF THE PHONOGRAPH.

What will the unearthly phonograph do next, and what realm will it not lay under contribution to its weird power? are the queries continually suggested by its doings and emphasized anew by its recent accomplishments in medical science, as told in the *Medical Record* by Dr. J. M. Bleyer, who has been prosecuting some most interesting experiments with it. He has been using the machine to teach, record, reproduce and demonstrate the physical signs alike of the normal and diseased condition of the heart and lungs; has actually made audible by his phonographic-physical examinations pulsations wholly inaudible to the ear in its non-phonographic state, and has opened up an entirely new field of investigation that cannot fail to be most valuable to the art curative. He obtained these results by attaching one end of a deaf-conversation-like tube to the recording cylinder of the phonograph and placing the other end on the part of the chest to be explored, the phonograph being set in motion before making tube contact with the chest. Thus every part was examined, the anatomical name of each being registered on the phonogram by speaking its name into the phonograph, and the different physical sounds were recorded by pulsation. In the reproduction of all the sounds and speech, their varied tones and pitch were given with perfect clearness, a direct attached stethoscope being applied to the physician's ears from the phonograph. With some extra experimenting, he was able to apply the use of the machine in such a manner as to throw the registered physical sounds into the auditorium, and so teach directly a larger class. This is all actual fact, not romance, and the time will doubtless come when no physician "in good and regular standing" will be considered to be fully equipped without a doctor's phonograph.

FLEXIBLE STONE.

A SINGULAR SUBSTANCE FOUND IN NORTH CAROLINA.

The Washington, D. C., *Star* of the 19th says: There lay this morning on the desk of Mr. Samuel Hodgkins, acting chief clerk of the War Department, a stone wrapped in brown paper. It weighed about a pound, and was perhaps thirteen inches in length, two-and-a-half in width, and one-third of an inch thick. The texture of the stone was fine and presented no evidence of stratification, and was smooth over the entire surface. A knife blade made no impression on the particles. There was no doubt as to its being a genuine stone, but it nevertheless possessed the flexibility of a piece of india-rubber. When taken in the hand and shaken in the direction of its flat surfaces, it would bend back and forth with a dull, muffled sound. The movement was more of a laxity in the adhesion apparently than an elasticity. When held horizontally by one end, the other would drop and remain in that position. With the two ends supported on rests, the free centre could be pressed half an inch below the middle line. With one end held firmly on the desk, the other could be bent upward over an inch. The movement was not confined to the one direction—in the plane of the flat surfaces—but the entire stone seemed to be constructed on the principle of an universal joint, with a movement in all directions under pressure. It came from a mountain in North Carolina, and bears the name of "flexible sand stone." The entire mountain is composed of this material, and pieces cut at random exhibit the same flexible properties.

BRASSING SMALL ARTICLES.—To one quart water add half an ounce each of sulphate copper and protochloride of tin. Stir the articles in the solution until the desired color is obtained.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

January.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, quail, chicken, duck, turkey, rabbit, goose.

FISH.—Bream, cod, crabs, eels, carp, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, cauliflower, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, squash, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

LENTIL SOUP.—One pint lentils, two quarts cold water, celery tops, one or two whole peppers, two or three ounces of ham, half an onion. Soak the lentils for two hours. Put them on the fire with the water and other ingredients. Boil three hours, adding more hot water if the quantity is reduced too much by boiling. Remove ham, onions and celery. Rub lentils through a sieve, return to soup, stir well and season and serve.

LIVER AND BACON.—Cut the bacon in slices first, then cut each slice into squares. Wash the liver thoroughly and parboil, or rather scald it, and cut it in slices of the same size as the pieces of bacon; put them alternately on wooden or silver skewers, and broil on all four sides. When done do not remove the skewers. Serve with a sauce of melted butter seasoned with lemon juice.

SWEET POTATO CROQUETTES.—Eight potatoes, four ounces butter, four tablespoons cream, salt and pepper. Bake the potatoes with skins on; scoop out and mash fine, adding while hot the butter and other ingredients. Beat all well together; form into croquettes, roll in beaten egg and bread crumbs, and fry in boiling lard.

MUFFIN PUDDING.—Take four fresh muffins, split and spread with apricot jam; close and cut them in quarters; lay them in a dish and soak them with a cold custard of four eggs, half a pint milk, half pint cream, and flavor with a glass of brandy and one of maraschino; sweeten to taste; fill up the mould with the pieces and the remainder of the custard; steam and serve with vanilla sauce.

DOUGHNUTS.—Six cups of flour, one and a half cups of sugar, three teaspoonfuls of Horsford's baking powder, one teaspoonful of salt, butter the size of half an egg. Mix thoroughly; then add four eggs well beaten and moisten with sweet milk until a soft dough; flavor to taste. Cook in boiling lard.

ORANGE JAM.—Weigh the oranges before peeling and put a pound of sugar to a pound of fruit. Take the peel from half the oranges, grate it and add the sugar. Open the oranges and be very particular to get out the seeds and white strings; add to the sugar and peel, with a little water, and boil twenty minutes.

ARROWROOT PUDDING.—To a dessertspoonful of dry arrowroot use a half a pint of milk or water and a teaspoonful of sugar. Mix the arrowroot and sugar, and smooth with a little milk or water. When the half pint of milk has just come to a boil, pour it over the sugar and root and stir well. To thicken nicely the arrowroot must be kept in a dry place. If it does not thicken when the milk is poured over, place the whole upon the fire and stir until it does. This is very nutritious and strengthening for invalids and is pleasant to children.

THREAD SPOOLS.

WHERE AND HOW THEY ARE MADE AND POLISHED.

Among the peculiar industries which flourish in western Maine is the making of thread spools. They are cut from smooth, white birch timber—a wood which works easily—by various kinds of improved machines. There are numerous mills throughout the lumbering region, where the birch is sawed into strips about four feet long and from one to two inches in width and thickness. These strips then go to the spool factories, to be converted into spools. The processes they are put through are numerous, and one of them, the method of polishing them, is quite interesting. A barrel is filled nearly full of them and then revolved by means of machinery and belting until the spools are worn smooth by rubbing one against another. Spool manufacturing is the most important industry in several of the villages of Oxford County, and will doubtless continue so until the supply of white birch timber is exhausted. The manufacture of shoe pegs is another peculiar Maine industry, though shared in to some extent by other New England States. These are cut from maple and white birch by machinery, and are worth at the factory from thirty-five to ninety-five cents a bushel. The compressing of sawdust is also a flourishing business in Bangor in that State. There is a firm there styling itself a "compress company," who convert sawdust and shavings into solid bales by compression, which finds ready sale in the large Eastern cities.

SPIRITUALISTIC HUMBUGS.

PROFESSOR HUXLEY RELATES HIS EXPERIENCE WITH
MEDIUMS.

The oldest in date of my spiritualistic experiences goes back about five-and-thirty years. It took place at the house of a relative of mine, and the "medium" was a pleasant, intelligent and well-mannered woman, a native of the United States, whom I will call Mrs. X. The chief performance was the usual pencil and alphabet business, and operations began with me as scientific witness and doubter general. The ease and rapidity with which that quiet transatlantic lady fooled me was, as she herself might have said, a caution. The name of the dead friend of whom I was thinking was spelled out in no time, and I was left morally agape, while Mrs. X. followed up her victory, and made one after another of the company a still easier prey. However, as soon as I could pull myself together, I watched the proceedings somewhat narrowly. I noted that the medium's success was by no means uniform; and in the case of one of my friends, who enjoyed a well-deserved reputation for outward impassibility, she failed altogether. So when Mrs. X. had made the round of the table I asked for another trial, and this time the failure was total and complete. The only difference in the conditions, however, was that on the second occasion I had my nerves and muscles under strict control, and took care that my pencil should pass along the letters of the alphabet as impartially as the hand of a watch over the figures on the dial. I have no doubt that on the first trial I had, quite unwittingly, rested longer on the letters which interested me, from part of the name which I had in my mind. Whatever the nature of the distinction, and however slight it may have been, it was quite enough for the keen eyes of Mrs. X., sharpened as they were by incessant training. But the interpretation of the signs unconsciously given by the investigator is only one-half of the medium's work. The other is to notify that interpretation by the "raps." Mrs. X.'s "spirits" did their work admirably. The raps were loud and abundant, and the company declared that they came from all parts of the room; indeed, there were some who maintained their persistence in the house for days afterward. At any rate, the sug-

gestion that the particularly quiet woman who sat easily talking at the head of the table could be all the while making these wonderful noises seemed at first sight outrageous. Drive it away as I would, however, the suspicion, the offspring, no doubt, of a basely materialistic philosophy, kept coming back—took shape as a theory, and finally, by dint of patience and perseverance, embodied itself into practice. From that time forth I became the master of two spirits quite as efficient as those of Mrs. X., and, I verily believe, of the same nature. My "delicate Ariels" reside in the second toe of each foot. The method of evocation is simplicity itself. I have merely to bend the toe and then suddenly straighten it; the result is a sharp rap on the sole of my shoe, which by practice may be repeated very rapidly, and rendered forte or piano at pleasure. To produce the best effect it is advisable to have thin socks and a roomy, hard-soled boot; moreover, it is well to pick out a thin place in the carpet, so as to profit by the resonance of the floor. The upper leather of the boot should be kid, rather than patent, as a bright surface may betray a slight movement. By skillful modification of the force of the blows and conversational misdirection of people's attention (by the methods familiar to conjurors and ventriloquists), the ordinary intelligent and well-educated member of society—who is about as competent to deal with these matters as a London street boy with a dairy farm—may be made to believe anything as to the direction of the sounds. So long as no one is allowed to touch the foot of the operator, detection is impossible. When I was in good practice I could stand talking on a well-lighted floor, while the bystanders, who knew that I caused the raps, could not divine how they were produced. And, at one time, I got so much in the habit of rapping that I used to catch myself doing it involuntarily, as a man in a brown study may rap with his fingers. I learned something else which interested me that evening. One of the guests confided to me that, some time before, he had met Mrs. X. at a country house. In the course of a seance, my informant was told that the spirit of his deceased sister Mary desired to communicate with him, and, with gravity befitting the circumstances, he took his share in the interesting, and indeed touching, conversation which followed. At the end of the seance the company broke up into groups. Mrs. X. and my friend happened to stroll away from the rest toward a bay window, whereupon this brief but pregnant dialogue took place: She—Did you ever have a sister Mary? He—No. She—I thought not. Any one could discern, on very short acquaintance, that my friend was a kind-hearted, chivalrous gentleman; but it is not everybody who would have perceived so shrewdly that Irish wit had, for once, been too much for Yankee cuteness, and that the only chance for the culprit was to throw herself on the mercy of the court. Fraud is often genius out of place, and I confess that I have never been able to get over a certain speaking admiration for Mrs. X. But as to the other two media whom I have tried and found wanting, they were merely male and female specimens of the Sludge family—wholly contemptible, clumsy creatures, with no faculty save boundless impudence. * * * When I am told that certain of my contemporaries, justly esteemed in science or in literature, believe in spiritualism, I can but reflect that certain other persons of that day, most unquestionably not in any respect less worthy of consideration, believed in witchcraft and demoniacal possession. Kepler had faith in astrology; Descartes made a pilgrim to Loretto; all the learning and acuteness of Henry More did not prevent him from enthusiastically backing another very acute and accomplished person, Glanvil, in his battle for the truth of the silly story about the "Daemon of Tedworth"—as silly a story as any to be found in the records of "spiritualism." If I decline not only to believe in astrology on the authority of Kepler; in the genuineness of the Palestinian house which flew to Loretto on that of Descartes; in the Daemon of Tedworth on that of Glanvil and More; but even to allow that the favorable opinion of these emi-

ment men makes out a *prima facie* case for these beliefs—it does not seem to me that I am wanting in due respect to Messrs. A, B and C, who are surely not the superiors of Kepler, Descartes and More, if, for the same reasons, I attach no greater weight on their authority, in pari materia. No one deserves much blame for being deceived in these matters. We are all intellectually handicapped in youth by the incessant repetition of the stories about possession and witchcraft in both the Old and the New Testaments. The majority of us are taught nothing which will help us to observe accurately and to interpret observations with due caution. Very few of us have the least conception how much more difficult it is to make such observations and interpretations in a room full of people, stirred by the expectation of the marvelous, than in the calm seclusion of a laboratory or the solitude of a tropical forest. And one who has not tried it cannot imagine the strain of the mind involved in sitting for an hour or two in a dark room, on the watch for the dodges of a wary "medium." A man may be an excellent naturalist or chemist, and yet make a very poor detective. But, in these investigations, those who know are aware that the qualities of the detective are far more useful than those of the philosopher. I had no intention when I sat down to write so long a letter. But I have for many years watched, not without anxiety, the recrudescence in our times, and under respectable sanction, of that belief in man's power of evoking spirits from which the basest and crudest superstitions of bygone ages logically enough took their origin; and perhaps the expression of my views may be of use, at least to those who have not yet toppled over the edge of common sense into the spiritualistic puddle. Those who have seem to be past praying for.

FAT POULTRY.

A CHICKEN FEEDING APPARATUS FOR EPICUREAN GRATIFICATION.

William O. Williams, a newspaper man, formerly of the press of this city, and later of Paris, has introduced into this country a somewhat novel epicurean scheme. He proposes to prepare poultry for table use after the most approved French plan, where the fowls are bred and fattened exclusively for eating. The chickens, of approved breed, are taken young, confined in well ventilated boxes in a darkened apartment, fed three times daily by artificial means with prepared food, composed of cream and ground cereals, are allowed no exercise, and have no business in life but to acquire tenderness, fatness and juiciness. Their flesh is then in a condition to tempt the duller appetite. The boxes are arranged in tiers, one above the other, in a cylindrical frame, each bird being fastened in its box with its head to the front. The feeder is supplied with a box of the prepared food and a force pump. Each chicken is taken in turn, its mouth opened and a tube inserted, through which its quota of food is forced into its crop. For broiling purposes, chickens are taken when from three to four months old and kept under treatment three weeks. For roasting, those from five to eight months old are selected, and they are fed a month. The treatment in that time adds about 60 per cent. to their weight.

BUSINESS NOTES.

MELLIN'S FOOD.

Mellin's Food is a soluble preparation, containing proper proportions of those nitrogenous and phosphatic matters which are essential for the healthy growth of a child, but are not easily obtained in prepared foods as usually sold. It is not only readily digestible itself, but it actually assists to digest milk or other foods with which it is mixed. I have made a careful experiment on its actual feeding qualities, and am thoroughly satisfied with the results.

G. W. WIGNER, F.L.C., F.C.S.,
President of the Soc. of Public Analysts, London, Eng.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the "Handy Binder" for binding the ANALYST, because of the following advantages: It is elegant in appearance, strong, durable and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the

paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

ANOTHER VICTORY FOR THE IDEAL.

The American Institute of New York has just awarded the medal of excellence to the Ideal Felt Tooth Polisher, manufactured by the well-known Horsey Manufacturing Company of Utica, the judges of award being Drs. Davenport, Woodward and Miller, three of the most prominent dentists in New York city. The growing reputation of this article in the hygiene of the teeth is now reflecting great credit upon the manufacturers, not only throughout our own country, but in many foreign lands, where its successful introduction has been effected, and from which the most favorable professional comment is received.

NOVEL ENTERPRISE.

Entering a large grocer's store the other evening, we inquired for some of James Keiller & Son's Dundee Jams; the grocer informed us that he had sold all he had, and could not obtain any more this season, as the supply in the United States was unusually short this year. He offered us another make of imported jam, which he told us depended almost entirely for its sale upon being imported, and the well-known inability to fill orders of Keiller & Sons, all of whose customers were regularly drummed for this jam after Keiller's stock was exhausted. Surely it is an ill wind that blows no one any good.

BETTER DO IT.

Shall I keep a diary? If you decide in the affirmative be sure to use an Esterbrook Pen. All stationers have them.

HORSFORD'S ACID PHOSPHATE.

For indigestion, Dr. Geo. W. Hall, St. Louis, says: "I took it for indigestion and found it of decided advantage."

THE DETROIT FREE PRESS SAYS:

In going to New York to stay a day, a week, or month, you want moderate prices and central location. The Sturtevant House, Broadway, cor. 29th Street is all that can be desired, and nearly 2,000 cars pass its doors daily.

CALIFORNIA
Fine Table Wines
From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.

Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, Agents.
C. JEVNE & CO., - - Chicago, Agents.

UNEQUALLED

Ask your Grocer for, and insist on having, LEA & PERRINS' Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

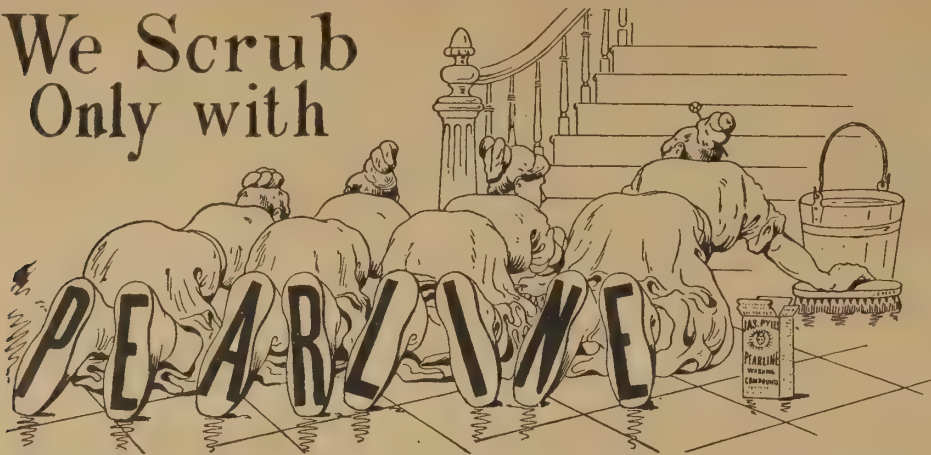
PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

We Scrub Only with



Because we have found nothing which is harmless, that will make things perfectly clean with so little labor in so short a time; besides, it is economical and makes the work easy.

Do you suppose—that anything could attain such popularity as PEARLINE enjoys, and hold it, without wonderful merit—that people would use it year after year were it harmful to fabric or hands—that the hundreds of imitations are attracted by anything but its wonderful success?

You'll do well to use Pearline—see that your servants use it, and insist that they do not use the imitations which they are often induced to try because of the worthless prize accompanying it, or by the glib and false argument of some peddler.

Remember, PEARLINE is never peddled.

135

JAMES PYLE, New York.



GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

FACIAL BLEMISHES.



The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Pitting, etc., and their treatment. Send 10 cts. for book of 128 pages, treating on 25 skin imperfections, 6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,
210 West 42d St., New York City, N. Y.
Inventor of Facial Appliances, Springs, etc.
Six Parlors; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

See Clubbing Rates of **AMERICAN ANALYST**, on page 48, and study their advantages.

GORDON & DILWORTH

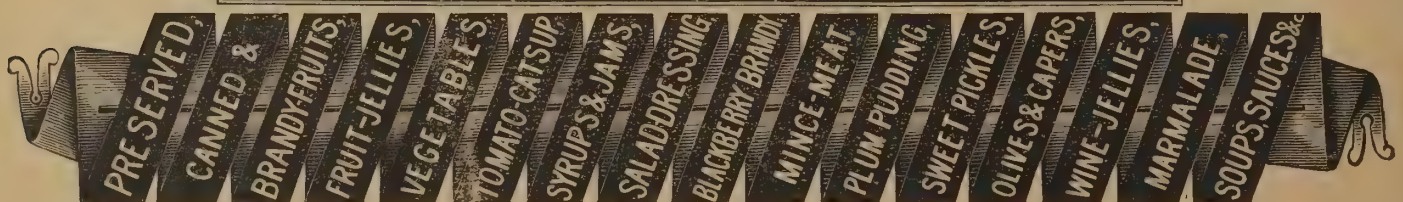
MANUFACTURING PURVEYORS
Established 1847

ALIMENTARY PRODUCTS
ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS
GORDON & DILWORTH
563 & 565
TABLE DELICACIES
GREENWICH ST.
NEW YORK
OLIVES CAPERS, SALAD, MINCE MEAT, PLUM PUDDING, &c.

CHOICE & DESSERTS
OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

2 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

75 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES
—BY—

Beadleston & Woerz
291 W. 10th St. New York.

Orders by Postal Card
promptly attended to.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISHER'S PRICE.	WITH DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal...	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		
Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
Braithwaite's Retrospect.....	2 50	3 50
The Epitome.....	2 50	3 50
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	3 50
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



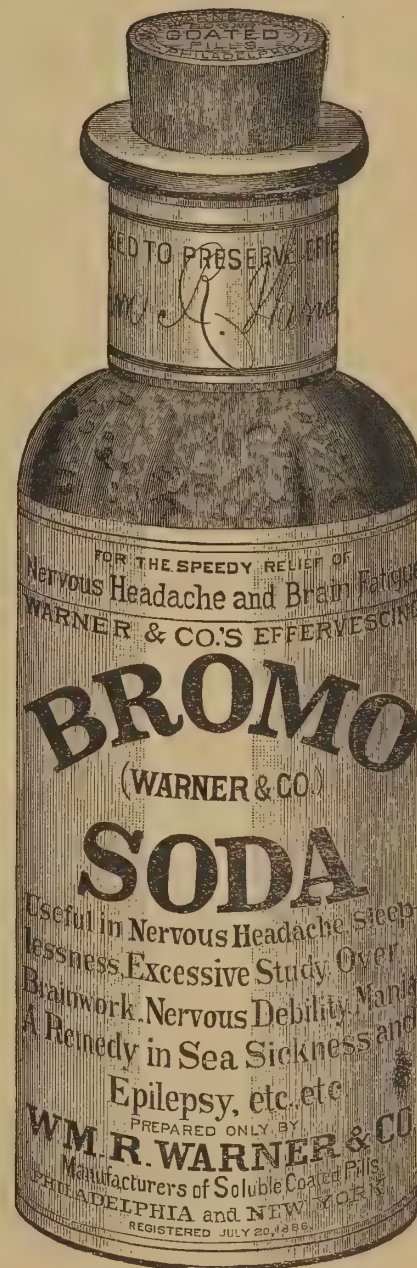
Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.



ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 35
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

See Club Rates for Medical Journals on page 47.

Established in London, 1831.

DEAN'S PATENT ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides. It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess. PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do. J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, ONLY THREE possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. E. H. CRITTENDEN, Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain). MALTINE with Phosphates, Iron Quinine, and Strichia.
MALTINE with Alteratives. MALTINE with Cod Liver Oil.
MALTINE with Hypophosphites. MALTINE with Peptones.
MALTINE with Peptones. MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt." Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything

Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 5.

NEW YORK, THURSDAY, JANUARY 31, 1889.

WHOLE No. 101.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CONTENTS.

Air and Light.....	54
Artificial Coffee.....	53
Correspondence.....	52
Inconsistencies of Butchers' Organs.	
Dew and Frost.....	56
Dietary Vagaries.....	52
Domestic Dietetics.....	57
Editorial.....	49
Our Shopping Bazaars; Electricity in College; Land and Taxes; A Voice from the Interior; The Pure Food Fizzles.	
Food Preservatives.....	58
Figs as Food.....	53
Heat and Heads.....	51
Ink Showers.....	54
Insect Lore.....	55
Is Life Insurance Safe?.....	58
Japanese Hotels.....	53
Knob Celery.....	51
Lard and Leviticus.....	50
Length of Life.....	55
Natural Gas.....	57
Raisin Wine.....	57
Thermometers.....	54
Women Voters.....	54
What Beef Costs.....	57

OUR SHOPPING BAZAARS.

There has been a tendency in our large cities, of recent years, to the establishment of large retail stores in which various branches of retail trade heretofore confined to separate stores have been united under one roof and management, though, perhaps, divided up into departments. There can be no doubt of the convenience of such an establishment, so far as it obviates the necessity of visiting many stores in search of a list of articles one wishes to purchase, but it does not really save time, because each purchase in such a store occupies fully as much time as it would in several stores. The only question we propose to consider, however, is that two-fold one in which the consumer is interested, quality and price. Both of these points open a wide field for consideration and lead on to other connected, though at first sight, apparently irrelevant subjects. As to quality much depends upon the knowledge and experience of the buyer for each particular department

and upon the consideration given to maintaining the reputation of the house for keeping the best goods. Unfortunately the public has been taught to look upon these bazaars as places where everything can be bought very cheap; and as some goods that are really of superior quality, cannot be bought at less than regular prices, this public expectation compels the proprietor of the bazaar to lower the quality of his goods. As the price at which they are sold is so closely connected with the question of quality and purity, we must stop for a moment to look into some of the methods of these stores, and their effect upon the methods of other establishments in similar businesses. It will be seen at once that the most powerful lever of trade, competition, largely influences here, not only in the business of other bazaars, but also in all stores selling any goods dealt in by the bazaars. The general idea held out to the public is that as the bazaars are large buyers and make rapid sales they can manage to pay their enormous expenses by the large aggregate of small profits. This, however, is only true to a limited extent. There are many staple goods on which the profit, even to the heaviest purchasers, is very small, and as no one can afford to retail goods without profit it goes without saying that there must be some way out of such a dilemma. This is accomplished by an ingenious system of making a paying advertisement out of what otherwise would be a heavy loss. Goods, with the prices of which the public generally is perfectly familiar, are sold at a loss, but this loss is carefully limited. For instance, a certain magazine can be bought in one of these bazaars at three cents less per copy than its cost at the best trade discount. Here the loss is limited by the firm selling only five hundred copies, and thus losing only fifteen dollars. After these five hundred copies are sold, though thousands more might be disposed of, no more are offered, but the reason for this, though obvious, is not explained to the customer. In this way the firm at the trifling cost of fifteen dollars has impressed the public with the idea that owing to the magnitude of the business done they can undersell every other store by ten per cent. As this does not pay when done very often, and as the lesson to be effective has to be repeated daily, other means must be resorted to, and here is precisely where the consumer is innocently helping to injure himself. Job lots and auction goods aid to a limited extent to fill the gap, but where this cannot be done resort must be had to inferior goods, which frequently look just as well, if not better than the superior goods. On such goods as these the bazaar makes enormous profits and the consumer meets with a corresponding loss. Again, while the innocent purchasers have been taught that these bazaars sell goods cheap, they will sooner or later learn that on goods, the prices of which are not so generally known, or where the value is concealed or depends upon the reliability and honesty of the house selling them, this apparent cheapness is a myth and the goods sold are really very dear. There is also a further evil consequent upon this system, the effect on other dealers in the same line, who, in order to hold their customers, have to cheapen their goods, which, as the manufacturer

will not permit himself to be a loser, invariably reacts on the consumer. A good example of this injurious result may be seen in the brush business. Only a short time ago the brushes sold in house-furnishing stores and bazaars were well made by well paid free labor, now, it is impossible for a manufacturer employing free labor to sell to these retailers. Only prison-made brushes can compete for this custom. Thus a large number of honest working people are seriously injured. Another evil effect of the bazaars that may be referred to here has shown itself in the collar business. Sharp competition had so depressed this industry that those firms who dealt in imported collars were compelled to withdraw, and only domestic manufacturers who dealt in inferior goods, collars made with linen outside, filled with muslin, could maintain themselves. As soon as they had ridden themselves of the competition, they immediately resorted to a combination of the few manufacturers left and put up prices, secure in refusing to sell goods to any retailer who would not sign an iniquitous agreement to sell these cheapened goods at the highest prices. Of course this will last only until a better grade of collar can be imported again, but until then the consumer is made to suffer. No doubt this trouble extends to many other branches of trade. What is the best remedy? Is centralization alone to blame? How much blame rests on the consumer?

ELECTRICITY IN COLLEGE.

A marked indication of the current of the period, and a valuable step in the right direction, is seen in the recent decision of Columbia College to add a special course of education in electrical science to the curriculum of that venerable institution. The new branch will be an appendage to the School of Mines, as a post graduate course to extend over from one to three years, the shorter period sufficing probably for such students of natural philosophy as do not contemplate giving exclusive professional devotion to electrical science. The proposed course, it is announced, will consist in practical work, construction of lamps, dynamos, primary and secondary batteries, insulation and installation of the plant, and investigation of the phenomena of electricity. The advantage of thus combining theoretical and practical knowledge cannot be over-estimated. The mere book student of any science, however profoundly versed in its general principles, must always stand at a disadvantage alongside the practical man who has been trained to a mastery of its mechanical manipulation; while the latter, in his turn, is often seriously handicapped by his deficiency in theoretical knowledge. The really scientific man, to be successful for himself and for others, should combine both these requirements, and be competent to conduct his own observations, make his own calculations, draw his own designs, and work from his own drawings. With the facilities at the command of Columbia College, we shall expect to see a new impetus imparted to electrical investigation and application. With all its wonderful achievements, the science is still

in its merest infancy, and the possibilities it holds out, vague as they are, and wrapped in mystery, are so immeasurable in their scope and so manifold in their manifestations as to render its study one of the most attractive pursuits to which human intelligence can be devoted. Nor is the prospect less inviting when viewed from a more material standpoint, for the rewards open to the successful electrician are as brilliant as the flashes of the mysterious element out of whose responsive activities they are evoked.

LAND AND TAXES.

That earnest agitator, Henry George, is steadily laboring to make converts to his "single tax" doctrines; but we fancy he has not secured many landed proprietors or real estate owners among his disciples. As there is a widespread misconception regarding the real purpose of this "single tax" theory, we will state in brief explanation of it that it contemplates the substitution, in the place of all the taxes now levied for revenue, of one tax only, which is to be assessed upon the value of land—not, as popularly imagined, upon the land itself. The distinction will be seen in the definition of his theory, given by Mr. George himself at a meeting reported recently in the daily papers. "Some of our opponents," he said, "are talking of us as people who wish to put all taxes on land. We don't propose to tax land. We propose—and that is a very different thing—to tax land values. Taxing land means taxing all land; but a tax on land values does not mean the taxing of all land, but only the taxing of valuable land, and that in proportion to its value. A tax upon land would tax all land, would resolve itself plainly into a tax that must be paid before the land could be used, and therefore into a tax upon labor; but a tax upon land values, only falling upon valuable land, would not affect all land, nor even all land in use, for the poorest qualities of land in use have no real value. If at any time they have a selling value, it is merely a speculative value; and therefore a tax on land values would always leave a margin of land on which no tax fell at all. It would not be a tax upon labor, nor a tax upon the production of wealth. It would be simply a tax upon a special privilege." The idea is plausible, and, as we said above, it is gaining the acquiescence of many not directly affected by its limitations. Those who have adopted it seem, however, to imagine that they have discovered in it a cure for all existing social discords. They would have all government expenses borne by "social" and not by individual wealth. They propose that the land, which gives labor and capital the opportunity to realize the largest return for their outlay, shall pay the largest proportion of society's expenses—the less valuable land to pay only its proportionate share. They anticipate as the direct result that wealth will become more evenly distributed, obstructions to its production will be removed, prosperity will be universally extended, and mankind will be raised to higher grades, with fewer intervening caste distinctions. This is all very charming as theory; but it is questionable whether the practical application of the "single tax" theory would effect any such millennial results. More probably the land in cities, whose improvements and eligibility of location should impose upon it the greater share of the tax burden, would become too expensive for ordinary business purposes, and would ultimately and in regular course pass into the possession of the city as a forfeit for unpaid taxes. Forfeited lands of that kind are notoriously unremunerative, and the deficit thus created would have to be made up by increasing the taxes of the holders of the remaining occupied land, with results that can be readily conjectured. This is a rough analysis of the probable practical working of the "single tax" system, but in a general way it is a reasonable forecast of the logical outcome of the theory. The reasoning of course extends from the city to the State. Large cities would cease to develop, commercial and business enterprise

of every kind would be paralyzed, and society would lapse into that dead-alive condition typified by Mandeville in his "Fable of the Bees," the difference being that in the one instance it would be government burdens, as in the other it was dead equality of individual virtue that throttled and extinguished the vital energies of the community. There is good ground for the belief that our surmise as to the ultimate results of the system are also entertained by Mr. George, as the underlying condition of his land tax theories is avowedly the compulsory sequestration by the State of all personal titles to real estate. In his pessimistic paradox, "Progress and Poverty," that ingenious speculator, after summing up the increase of burdens and disabilities which, by his reasoning, attend the laboring man with every step of social advancement, he declares, "We should satisfy the law of justice, we should meet all economic requirements, by at one stroke abolishing all private titles, declaring all land public property, and letting it out to the highest bidders." The effect of the "single tax" would be, as we have shown, the gradual extinguishment of private land titles, instead of the more robust proposition just quoted, to abolish them at a single stroke. The result would be equally suicidal in both instances. There is a manifest absurdity in the sober promulgation of such doctrines at this period, when the masses, especially in the United States, are in a far more independent and comfortable condition than they ever were before, when the condition of workmen is steadily advancing, and when wages are constantly growing greater, while the cost of living is not proportionately increasing. The nationalization of land does not seem to be imperatively demanded for the protection of this generation.

A VOICE FROM THE INTERIOR.

The *Butchers' Record*, an unfathered and, to judge by its own complaints, an unappreciated weekly, hailing from Alleghany, in the State of Pennsylvania, is evidently famishing for recognition. To attain this, it takes pains to misquote the AMERICAN ANALYST, calling us all kinds of hard names and claiming that we made figures contradict the truth in our publication of the retail prices of beef. Bare assertions, unsupported by argument or proofs, do not amount to anything. If the *Record* is really the organ of the butchers, as it claims to be, it would have been an easy thing to obtain the assistance of some of its constituents to prove wherein our figures were false. But the figures told the exact truth and all of the genuine butchers who are too intelligent to be befogged by this amateur "organ," know it, hence the *Record* does not and cannot show where our errors exist. There is often considerable amusement to be gotten out of the columns of these would be organs. Not knowing exactly what they ought to say to please the agitators whose schemes they would serve, and afraid to offend the butchers whose money they want to get, they are led into all kinds of blunders. In the latest fulminate is the funny suggestion that the Pittsburgh butchers do not want to interfere with the business of the Chicago dressers—they only want the latter to establish slaughter-houses in Pittsburgh. To believe the *Record* the butchers are actually aching to have Mr. Armour open an abattoir in Pittsburgh. The *Record* evidently forgets that Col. Slaughter has told the butchers that their only salvation from becoming Armour's meat-cutters is to subscribe five dollars a piece and kill off the Chicago beef-dressers. It is pitiful to perceive that the butchers do not seem to appreciate their self-styled organ. They don't support it, so the *Record* says, and it ought to know. It is evident that the lot of a would-be butchers' organ is a hard one. The members of that craft are not ignoramuses to be led by the nose. They are doing well as it is and are perfectly satisfied to leave well enough alone. If we were at all interested in the matter we should recommend the *Record* to brace up a little, and convert itself

into the "organ" of some less intelligent branch of trade by which it would be more satisfactorily appreciated.

THE PURE FOOD FIZZLE.

The astounding information is vouchsafed us, on the authority of the N. Y. *Press* Washington correspondent, who has been looking up the prospects of "pure food" legislation at the National Capitol this session, that he "finds that the interest in the passage of a bill to prevent the adulteration of food has almost entirely disappeared from Congress." The fact is, the flimsy devices of the retail grocers who have hitherto kept the "pure food" agitation inflated have been so thoroughly exposed, that they find it prudent to let the subject pass "innocuous desuetude." What will the next scheme be?

LARD AND LEVITICUS.

THE HEBREW HOUSEWIFE EXULTING IN A COTTON SEED PRODUCT.

In a recent issue the editor of the *Hebrew Journal* made this statement:

The other day I received a circular extolling the merits of kosher lard—that is, lard made from cotton-oil. And now the only thing left for the ingenuity of the American inventor is to discover some process by which bacon and ham can be rendered kosher enough to meet with the approval of Rabbi Joseph himself.

To the Christian reader this probably has little significance, but it means a great deal to the Jew. For many generations the Jewish housewife has been beset with vexations and difficulties from which her Christian sister was altogether free. The Mosaic laws, with their minute regulations concerning both the preparation and serving of food, hampered her in many respects, and made for her much labor that would, without their interference, have been unnecessary. Of course, everybody knows that pork does not enter into the Jewish house, but further than that the knowledge of only the minority outside the faith extends. Chapter XI. of Leviticus contains a bewildering list of animals, fowl and fish that were declared unclean, but the restrictions that appear in the Bible were of little moment compared with the many that were added afterward by the rabbis or wise men, so that now the orthodox Jewess stands in continual fear of transgressing some of the regulations of the household, as they are laid down by Rabbi Joseph and his kind. The ban against the hog was pronounced in the sentence that forbade the eating of any animal that did not divide its hoof and also chew its cud. This, of course, ruled against the fat of the hog also, and never has lard been used by any Jew who at all respected the tenets of his faith. In fact, many Jews who have departed from the ways of their fathers, and who have thrown aside the traditions of their religion, would not use lard under any circumstances; and it is undoubtedly true that, while originally the flesh and fat of the hog were considered no worse than those of any other of the forbidden animals, they became many centuries ago the most sinful of all in the eyes of Israelites, and no more severe persecution was ever attempted by their enemies than when they forced the obnoxious food down their abhorrent throats. The New England wife who has made her toothsome doughnuts and flaky pie crust with the aid of lard will, no doubt, wonder how any cook could ever get along without it; but the Jewish cook had to stand even greater deprivations. In making doughnuts and pie crust, she could use butter, provided, however, that these dainties were not eaten with any other dishes that contained meat or its products. The rabbis have interpreted the Mosaic laws to mean that flesh and milk must not be eaten at the same time, and the orthodox Jew will not eat them within an hour of each other. As butter is the product of milk, pie crust containing butter could not, of course, be

served at any meal in which meat was also a part. In frying meats their regulation prevented the cook from using butter or lard, and left her the choice between vegetable oils and beef fat. Even in regard to these there were some restrictions. All beef fat is not kosher or clean. All cholef—that is, tallow—is not kosher. Cholef includes the fat around the intestines and kidneys. Miker, the fat between the intestines, is kosher, and this is what the strict Jewish cook has used mainly as long as there is any record. In European countries, where the Jews still live together for the most part in certain quarters of the cities, towns and villages, no other grease is used than the beef fat and goose grease. Polish Jews are especially addicted to the use of the goose grease, which is very fine and much more expensive than lard. German Jews use beef fat more. In either case the cook tries out all the fat she uses herself, and is thus doubly sure that it is kosher. In fact, unless the assurance can be given that it has been tried out in kosher vessels, and that it has not come in contact with foreign substances, it would be just as unclean as the hog lard itself. Of course, the trying out of the fat meant a great deal of extra labor, and, what with keeping two sets of dishes, one for milk foods and one for meats, which were never allowed to touch each other, and observing all the other regulations, the Jewish housewife had nearly twice as much work as any other. In this country and some of the southern countries of Europe olive oil was used instead of fat, but not everybody cares to have meals prepared in oil, and the use of it was confined within narrow limits. The words of the editor of the *Jewish Journal* will bring joy to the hearts of all Jewish cooks. They mean that one of their most vexatious trials in the past can now be obviated. The reporter who inspected this new "lard" found it very appetizing in appearance. It resembles ordinary lard. It has a slight odor of the oil, but it is not at all objectionable. It is said to be made of cotton seed oil and pure beef fat. It sells at the same price as the best lard, but the manufacturers claim that it is cheaper, inasmuch as it requires a lesser quantity to accomplish the same purpose. It is necessary, in using it, to put it in a cold pan with the meat or other food, and let them get hot together. If it were put in a hot pan, the oil and fat in the lard would separate. Although this lard is made for the use of the community at large, and is not controlled by Hebrews, the manufacturers have taken especial pains to disseminate their literature on the subject among the Jews of the country. Their pamphlets are all headed with the word "Kosher" in Hebrew characters. Editor Davis, of the *Hebrew Journal*, said to the reporter that the new lard was being extensively used by the Jews in this city, and that it was saving labor for a great many Jewish cooks. Within the past five or ten years there have been great changes in the habits of the American Jews. It may be safely said that outside of the strictly orthodox Jews, who are mostly followers of Chief Rabbi Joseph, there are comparatively few Jews who pretend to obey the Mosaic laws strictly, and a very large number who pay no attention to them at all. There are many Jews who will not use lard or pork at home, and who make a show of regarding the Mosaic laws under their own roofs, who show an utter disregard of them when they eat elsewhere. This is true even of many of the seeming orthodox Jews of the east side. Anybody who has seen them at the hotel tables in the Catskills or at the sea-side resorts knows that they have eaten milk and meat together—a sin sufficient to brand them as the rankest heretics in the Jewish communities of Europe. The younger generations of Jews not only disregard these laws, as a rule, but not infrequently scoff at them, and it may be safely said that if the existence of the Mosaic laws depended upon their observance in the New World their extinction could be easily predicted. All the rabbis in the world could not check the progress of this sort of heresy where it is established in such formidable proportions. The strict Jews allege that the Mosaic laws are health regulations,

and that their general observance would do away with a great deal of the dyspepsia now existing. Among them and among their co-religionists in other countries the new discovery will prove a boon. Among the others it will be used, if at all, only because it can be demonstrated to have advantages over the product of the hog.

KNOB CELERY.

AN AGREEABLE AND WHOLESOME ARTICLE OF DIET.

Every one knows table celery, but only a few are acquainted with "celeriac," known as knob-celery, or, as it really should be spelled, *Knopfcellerie*, the German name of the same plant which has been cultivated to develop the root instead of the stalk. Celery, *Apium graveolens*, is a biennial plant belonging to the order *Umbellifera*, which in its native condition is known as smallage. In its wild state it is common in marshy places, especially near the sea, producing a furrowed stalk and wedge-shaped leaves, the whole plant having a coarse, rank taste, and a peculiar smell. By cultivation of the plants, raised from the seed, they can be developed by blanching the stalk into our ordinary table celery or by retarding the stalk and stimulating the growth of the root into celeriac or knob celery. In the latter form it may be purchased at nearly all grocers, especially in German neighborhoods. It is generally exposed for sale in bunches of three or four roots which look somewhat like beets or black radishes. The tops make good soupgreens. The roots are washed and boiled like potatoes until tender and then while still hot are carefully peeled, scraped and all pithy parts cut out. If they are to be used as a vegetable they are sliced, buttered and served. They require considerable salting. If, however, they are to be made into what the Germans call celery-salad, some fine olive oil, such as Gourmet, in the proportion of a gill to the quart of hot sliced roots is poured over them, also a gill of heated vinegar, pepper and salt to taste, and the whole mass well shaken in the bowl and allowed to cool rapidly. It should be served cold. In either way it is delicious having the full flavor of celery and the mealy taste of the potato. As celery is a good diuretic it is a very wholesome dish. It may not be generally known that celery salt is made by adding powdered celery-seeds to salt.

HEAT AND HEADS.

DOES EXPOSURE TO THE SUN CAUSE THE HUMAN SKULL TO BE HARDER AND THICKER.

One of the most interesting things mentioned by Professor Virchow in his little book just published, entitled "Medical Remembrances of an Egyptian Journey," in which he describes an excursion up the Nile as far as the first cataract, is that the broken skulls on the first great sepulchral fields, dating from Roman times, are as thick and hard as Herodotus says those of the slain Egyptians were in comparison with the brittle ones of the Persians. The Greek historian explains this by attributing it to the early exposure of children to the heat of the sun; and in many parts of upper Egypt the German travelers actually found young children thus exposed during their parents' absence in the fields, in immense clay bowls, resembling in shape a champagne glass with a stem, into which they were put without shelter. This discovery by Professor Virchow is interesting, because it at once suggests the question whether the proverbial thickness of the skull of the negro has not been caused by exposure to the sun, and whether it is a peculiarity of savages of tropical countries that their skulls are thicker and harder than those of the inhabitants of temperate and colder countries. Students of craniology have never made any investigation to ascertain whether the skulls of different races vary in degrees of hardness. It would be almost impossible to make such an inquiry. As is well-

known, the human skull increases in hardness from childhood to maturity and age. A miscellaneous collection of skulls of any given people would therefore be of no value in such an investigation. To obtain a collection of skulls of a number of nationalities, that should be taken from subjects all of the same age, to have them all similarly prepared and in sufficient numbers to make it possible to draw any general conclusions from their comparison with each other, would be manifestly impossible. More attention has been given to the relative thickness of different skulls, or rather to their weight, from which their thickness may be inferred. Of the large collection of crania in the Army Medical Museum at Washington, the thickest are those of negroes and Alaskan Indians. The skulls of other Indians, both of North and South America, in tropical or temperate climes, and of the Eskimo, do not appear to be particularly thick. Among the ancient Peruvian skulls recently received by the museum, and the ancient crania collected in Arizona last summer, there are frequent individual variations in thickness, but no tendency to unusual thickness. The conclusion from these facts is, that exposure to the sun probably does not cause thickness of the human skull. In connection with this subject, it is interesting to note, that, among the Australians the *sinus frontalis* is generally found to be solid in the males, instead of being hollow as in the skulls of other races. This bone in the male Australians generally extends straight across the head, the lower side overhanging the eyes so that they seem to look out from under it, while in the North American Indians a modification of shape deprives them of that heavy look about the forehead. The heavy *sinus frontalis* of the Australians, of course, increases the weight of the skull.

ELECTRIC STREET RAILWAYS.—In the field of electrical applications reduced to commercial use, the most striking feature of the year is to be found in electric street railway service. Not only has the business grown beyond all expectation in amount, but much improvement has been effected in its electrical and mechanical features. The establishment of an electric road is no longer looked upon as a formidable undertaking, nor is its operation regarded as a curiosity by the public. December 1, a year ago, there were twenty-one electric roads in operation in America; to-day there are fifty-two, while forty-seven are under construction or contracted for. Cheap and poor line construction and ill-adapted mechanical details, found too frequently in much of the early work on railways, are being discarded in new words and replaced in old (the old story, but promising to be less prolix in this instance than it has been in other cases). Much yet remains to be accomplished in electric traction, but the great gains of the closing year, technical and commercial, are abundantly apparent. The rate at which electric motors have been installed for stationary power is scarcely less noticeable than the development of electric traction during the year. About the first of September it was estimated that 6,000 electric motors were driving machinery in the United States. A thousand have probably been added since. It seems reasonable to estimate the number put in operation for the year at no much less than 4,000.

NAPHTHA ENGINES.—The Gas Engine and Power Company of New York has perfected an engine in which both the fuel and the power are obtained from naphtha. It has been applied to many boats of from sixteen to thirty feet in length, and works admirably. The beauty of it is that while it is cheap, clean and always ready, it can be managed by anybody. The owners of many well-known steam yachts have had naphtha launches made for them, and express the greatest satisfaction with them. The engine is started by lighting an alcohol lamp and blowing some naphtha vapor over the flame with a little hand pump. This makes a hot fire and heats the naphtha in a retort. This heated naphtha generates the gas which drives the engine. After the engine is going, which is in about two minutes, some of the gas in the retort can be used as fuel, and the alcohol lamp and pumping are no longer necessary. The engines can be instantly reversed when at the highest speed. Only 6 per cent. of the fluid in the retort is used, the remainder being returned to the tank and used over again. A two-horse power engine runs a twenty-foot launch and uses three or four quarts of naphtha an hour.

CORRESPONDENCE.

INCONSISTENCIES OF THE BUTCHERS' SO-CALLED ORGANS.

Editors Analyst.—The so-called butchers' organs are loudly crying for a State inspection law in every State to shut out Western dressed beef, but seem to have overlooked that such a law in New Jersey and Connecticut would utterly destroy one-half the wholesale and retail trade of Washington Market. They are publishing lawyers' opinions of the constitutionality of such laws and of the unconstitutionality of similar municipal laws, yet do not see that precisely for the same reasons such State laws would be unconstitutional under the United States Constitution. In another column of the same paper they gloat over the passage of such an ordinance in Denver, Colorado, which has been shown to be clearly unconstitutional. They rejoice over a law introduced in Canada to heavily tax American lard, thinking that only the hated Chicago packers make lard, and innocently overlooking the fact that some of Chicago's bitterest opponents make lard as well. In one column they pat Chris. Brokate on the back for some supposed meritorious work, while in the adjoining column they tell him that he had better stay at home in St. Louis and watch the cattle-yards there, and in the very next editorial they accuse him of using opprobrious epithets and of foolishness. They advise that the only way to get State inspection laws passed is to induce the people to demand them, and to get the people to demand them they say the people must be convinced of the necessity of such laws; but how to convince them, there is the rub. Oh consistency, thou art a jewel!

CLEAVER.

DIETARY VAGARIES.

WHAT FOODS ARE NOT ESSENTIAL TO THE PRESERVATION OF HEALTH.

There is a class of theorists in existence who claim to have scientifically demonstrated that there is absolutely nothing in the way of food, minerals, condiments or spices that is essential to health, while the utter absence of some elements of food which are considered indispensable is often conducive to health.

This theorem has been forcibly exemplified by the personal experience of well-known physicians. Dr. Garretson, of Cincinnati, is 83 years old, and it is his boast that he never in his life suffered a pain.

"How do you explain such a remarkable exemption?" he was asked.

"You would scarcely believe me were I to tell you," he replied, and an incredulous smile played about his pallid lips. "I am not as robust as some men, nor as full of life's rosy color, but my step's as light, my nerves are as true and my appetite as good as, or perhaps a trifle better than, those of men half my age, who are reputed to be models of good health. Why is it? Well, I will tell you, although you no doubt will scout the idea, as most people do. It has now been fifty-three years since I tasted meat or grease of any kind whatever, and forty-two years since I have eaten a particle of salt or seasoning of any kind in any food. Doesn't look reasonable, does it? Everybody, you know, imagines that if he were to be denied salt he would get sick and ultimately perish; but, sir, it is true—no salt in forty-two years. I have my food especially prepared at the hotel if I am away from home any length of time; if I am not, I carry enough lunch with me to last till I return. I do not eat fried food. An article fried is already condemned. Did you ever hear of anything being fried for a sick man? When the stomach begins to break down, the first thing it rejects is fried food. Next it rejects grease in any form. It's nauseous. This fat was what suggested the elimination of grease from

my food. I experimented with such marked success that my mind began to inquire further into the problem. The Indian in his native state never tasted salt, and health with him is almost a second nature. As much as I liked salt as an element to bring out the latent flavor of many articles of food, I regarded perfect health as essential to happiness and conducive to greater enjoyment of life than what little pleasure I might extract from an hour at table, and my salt went the way my meat and grease went. As when I gave up meat and grease, the denial cost me a great effort, but I came out in time master of the situation, and have not for years had any desire for any of those things. Taste is very much a thing of cultivation. The palate is capable of being adjusted to a high appreciation of almost any flavor. Why, I have seen men gag over beer and oysters and bananas and tomatoes and whatnot, when they first tasted them, but after repeated attacks became fond of any or all of them. To me, now, a seasoned article of food or grease in any form would be as unpalatable as an article which you refuse to eat unless highly seasoned would be to you were it not seasoned. I suppose you know," continued the doctor, "that Theosophists eschew all manner of meat, and some of them, I believe, include grease. It is not in keeping with their theory of life to eat anything into which animal life enters. I might say they are 'mentalists.' They hold, perhaps not without some foundation, that whatever we eat, becoming a constituent part of our parties, exercises more or less influence upon our lives, and, as the brute is a lower being than the human, to consume his flesh has a tendency to retard mental development and spiritual advancement. It has been my observation all through life that the man who consumes great quantities of meat is hoggish in his disposition and brutal in his conduct. The animal becomes a part of him. And what a marked contrast there is between him and the lady—or gentleman for that matter—who lives on delicate food. I do not know what pain is. I have no conception of it. I never had a headache, nor has an organ of my body ever been affected in any way."

Dr. Garretson's complexion might be termed a "pale white"—a sort of a spiritual hue. His eyes are bright, clear and steady in their expression, and his slender form is as erect as that of a young man.

Dr. Ephraim Cutter, of this city, is considered quite an expert on food. He read a paper on "Hygiene for Home Missionaries" before the Social Science Society in London, June 12, 1887, of such excellent merit that he was at once voted an honorary membership; besides which he is an M. D. of Harvard, an A. M. of Yale and an LL. D. of Iowa.

"What should a man eat for health?" he repeated when the reporter asked him the question. "Well, I'll tell you: In August, 1884, I was at my brother-in-law's grist-mill, and noticed the Michigan winter wheat as it came through the smut-mill, clean and fair, ready to be ground up into 'wheat meal' or flour. The idea struck me, why not use this cleaned wheat for food? It is free from dirt and contains all the form and chemical elements in proper proportions for nourishment that our Creator intended mankind should have when wheat is eaten. We do not crack or grind up other fruits, as tomatoes, bananas, potatoes, etc., a long time before they are eaten, nor do we deprive them of their natural protective garments and mechanically separate their form elements, so that one-half at least of the nutritious qualities are taken away and fed to brutes, as we do in wheat. If those products were subjected to such treatment, they would become unfit to eat. Why not, I thought, get the aroma and bouquet of the wheat in the cooking and not lose it in the milling. Acting on this impulse, I took home with me a half-bushel of the cleaned whole wheat, and put my family on it to see how long they could live on it without tiring. The experiment has been carried out up to the present time—now over four years—with no signs of tiring. My wife, who is my authority in cooking, after many trials of hers

and my own—in which I was laughed at—prepare it this way: To cook sufficient for four adults take one cupful of wheat, and washing it clean in cold water, put it in a tin pail or crockery bowl and add one-half teaspoonful of salt and three cupfuls of cold water. Then suspend the pail in a pot of cold water, set it on a heated stove and boil for ten hours. When cooked it should be soft adhesive, glutinous and easily masticated. Serve with butter or milk or cream, or eat it without, as the Asiatics eat rice, with no seasoning. If the cooking is well done there is an agreeable, nutty flavor of the wheat which corresponds to the bouquet of grapes. This flavor seems to be lost when the wheat is cracked, crushed or ground long before cooking. "Now, what is the advantage? I will tell you. This is a perfect food and gives all the body's tissues a chance to bed and nourished. It is intended that this should take the place of oatmeal, which has less gluten as compared with wheat, and is harder to digest. It is better than flour. Magendie fed dogs on flour exclusively and they died in forty days, while other dogs thrived on whole wheat. Judge Abbott, of Boston, once told me of some shipwrecked sailors, who were obliged to live on flour alone and they nearly starved. They could have lived on wheat. It is more economical also than flour. It goes further, feeds better and gives better nutritive results. Hence when money is scarce and resources have to be husbanded—or 'wifed,' it may be more truly said why not resort to this food? The objection to the tegumentary coats is not so great as some doctors might suppose. It is free from yeast and not liable to fermentation when taken into the system. Why, the old Roman soldier lived on wheat, carrying a bag of it on his marches and chewing it at will. The less sugar used the better, as all the starch of wheat has to be converted into glucose before assimilation. If people were taught to use less sugar they would know better what are the natural flavors of different foods; would like them just as well, if not better, and have much better health in the bargain."

"I must tell you an experiment my old friend, Dr. James H. Salisbury, made in Ohio," continued the doctor. "He employed six healthy men, ranging in age from 25 to 40 years, and in weights from 145 to 172 pounds. He paid them \$30 a month, fed them exclusively on baked beans and coffee, required them to take a two-mile walk morning and evening, retire at 9 p. m., and rise at 6 a. m. They were allowed all the cold water they wanted. On the third day they began to bloat badly. By the ninth day their ears were ringing, they were dizzy and their hands and feet pricked. Symptoms of progressive paralysis began to show themselves on the tenth day in all six cases, and these symptoms daily increased thereafter. On the sixteenth day the disease was so marked that not one of them could walk straight without support. All wobbled and dragged their legs, not being able to lift them from the floor. On the twentieth day he changed their diet. They had lost from eighteen to twenty-five pounds apiece. He gave them beefsteak freed from fat and white tissue and bread, and they ate ravenously and soon recovered. Dr. Salisbury next tried four stout, hearty men on oatmeal porridge, seasoned with butter, pepper and salt, and allowed them at each meal a pint of coffee, seasoned with sugar and milk. The second day they commenced to become flatulent; on the fourth day, colic pains; the seventh day the derangements were more marked; fifteenth day, nightmare and bad dreams; very dull, mixed and stupid; stomach distended with gas, ringing ears, heart irregular, feet and hands numb, and mouth and throat covered with sticky mucus. Their symptoms grew more alarming until the thirtieth day, when he did not deem it prudent to continue the experiment, and the moment he resorted to other foods they began to recover. So that is sufficient evidence that neither baked beans nor oatmeal possesses the life energy which people imagine they do."

Dr. Cutter says that bread, rice, wheaten grits, hominy, sago, tapioca and potatoes have each been fed upon

continuously for from forty to forty-five days before serious diseases and symptoms were produced. These foods are very similar in their action upon the human body, and cause like derangements and pathological states. They sustain the organism far better and can be borne longer than any other vegetable aliment before grave disturbances arise from their exclusive use. Were the exclusive feeding kept up too long, either consumption of the bowels or lungs or both may result, or Bright's disease, diabetes, paresis, fatty diseases of the liver, spleen or heart or fibrous consumption may be the outcome. Green peas and string beans rank in point of alimentary qualities. Green corn, turnips, beets and squash cannot be subsisted upon exclusively for more than a very short period before grave derangements will ensue. Asparagus is the most injurious of all vegetables when lived on alone. They attack the kidneys. Meats can be subsisted upon longer than any other food, and the reason is this, that the first organ of the digestive apparatus—the stomach—is a meat-digesting organ. But this refers particularly to beefsteak. Eggs, fish, pork, veal, chicken, turkeys and game, if eaten in undue proportions, will result in meat dyspepsia, producing great distress and oppression, the gulping of wind that tastes like rotten eggs (sulphuretted hydrogen), and then sickness, weakness and loss of appetite.

Both the gentlemen quoted, and the third whose experimental tests are related, do not so materially disagree. Dr. Salisbury says, and Dr. Cutter agrees with him, that meat dyspepsia is the worst dyspepsia in the world, and when the patient is thus afflicted nourishment must be taken by some other way than by the stomach. It is totally and completely incapacitated. And neither of these last two named physicians favor the eating of the fat and white tissue in beef where the patient is not hearty. Dr. Cutter recommends "beef pulp." Dr. Garretson in his diet never experimented with living exclusively upon one kind of vegetable, and hence never suffered the evil results which Dr. Salisbury produced. The vegetable kingdom, or even a portion of it, contains all the elements of life and health which the human system demands, and whether meat shall be partaken of or not rests solely with the feeder.

FIGS AS FOOD.

THE MOST NUTRITIOUS OF ALL FRUITS EXCEPT THE OLIVE.

One of the Persian kings caused the celebrated Attic figs to be set before him whenever he dined, for one reason, to remind him that the land where they grew was not yet his and that, instead of receiving the fruit as a tribute, he was obliged to buy it from abroad; and, for another, that it was not only the emblem of health, but the most wholesome fruit grown. The fig is now pretty well-known to be, especially at certain seasons, almost the common food of the Italian people; and for months they may be said to live entirely upon them. It is not the superfluous, the luxurious, and thus, as Dr. Nichols says, it is not only possible for a man to live upon figs, but that, sitting under his own vine and fig tree, a man would have plenty of food and no landlord. When eaten fresh, it is a medicine as well as food; and they who eat them freely need no potions and no aperients. Full of nutrition and all those properties that make it valuable as an article of diet, we are confident that the fig will take a prominent position in the estimation of all who work for and believe in food reform. For myself, I would simply add that, again and again, without liquid of any kind, the luscious green fig, eaten with whole meal bread, has formed a dish at once simple but rich, and, like the Spaniard's salad, fit for a king. The fig is not only very popular, but it is the most ancient fruit we cultivate. In many countries the failure of this crop also means starvation and famine. Travelers in Asia Minor and southern Europe provide themselves with figs and olives as provisions for long

journeys, and not only live, but grow fat on the diet. The fig has more medicinal properties and more nutriment than any other fruit with the exception of the olive.—*Interior.*

ARTIFICIAL COFFEE.

ANOTHER ILLUSTRATION OF TEUTONIC YANKEE INGENUITY.

Of late artificial coffee-beans have been found in the European (German) markets. They are made from roasted grain flour with an addition of dextrine or some such body. There are two establishments at Köln which furnish the necessary outfit, with formula, etc., for the manufacture of the beans. According to an original letter from one of these establishments in the possession of Dr. A. Stutzer, in Bonn, from 1,000 to 1,200 pounds of beans may be made in one day with the outfit, which the firm offers at a high price. The letter further predicts a golden future for the article, but advises that it be used for the adulteration of genuine coffee only in such countries where the laws are not very stringent, etc. These prospects must be very enticing to sophisticators, especially as the imitation is so perfect that only a very critical examination will serve to detect the adulteration. The artificial bean distinguishes itself from the genuine in being perfectly symmetrical and of the same size, and that the epidermal membrane is entirely wanting.—*Ph. Central.*

JAPANESE HOTELS.

PRIMITIVE ACCOMMODATIONS FOR TRAVELERS IN JAPAN.

Our correspondent who has spent many years, as a resident and a traveler, in both China and Japan, supplies us with the following notes: There are no such luxuries as "gas, hot and cold water, and all the modern improvements," with only a few exceptions; these being recent erections, and for the most part in the mountain districts. The majority of hotels are alike, the difference being in the interior, and this being marked in the finish and neatness. Some of the hotels are very large, covering an extensive area; and although they are very often two stories in height, the upper one is not considered safe to live in. The front of the building is quite open to the street during the daytime. That which serves for the office is in the front room, the kitchen being also in the front of the building. There is nearly always to be seen hanging in the vicinity of the kitchen a list of charges for lodging. On a hot day the hotel looks very inviting, room after room being seen stretching backward. In the centre of the building is an open court, in the midst of which is a truly Japanese garden, fitted with rockeries of fantastic shapes, plants and flowers, and having a pond filled with gold fish. The parlor will be found at the back of the building, and the rooms are remarkably similar, having not a piece of furniture in them. At times the wood-work in the parlor is exceedingly pretty, and there are pictures, with occasionally a poem written in large characters in silk, hanging on the wall. The rooms are always scrupulously clean, and the floors of all Japanese houses, private or public, are covered with thick straw mats. As in Mohammedan countries, on entering any hotel or any house, the shoes must be removed, as a Japanese never wears anything heavier while in the house than a sock. Wherever there is any wood-work in the house, it is kept highly polished, as likewise are the verandas, which are indispensable accompaniments to the hotels of Japan, as by them the various apartments are reached. The wood is so exceedingly smooth that it will show the slightest scratch, or the mark made by a small nail in the shoe, as easily as a polished walnut or mahogany table would do. On entering a Japanese hotel, the visitor is conducted to a room, and immediately a girl waiter brings tea and cake. The

custom in Japan is to give a little present of money at this time, the sum being regulated in amount according to the degree of attention demanded. The prices for the lodging are generally fixed at stated sums for first, second and third-class lodgers, this sum including supper, breakfast and bed. Visitors do not remain in the hotel during the daytime, except at the summer and health resorts, and generally by eight o'clock in the morning the building is empty. Meals are invariably served in the different rooms, and this plan necessarily calls for a large number of waiting girls. The food is served on small, low tables just raised from the floor. The price of a first-class lodging, with meals, is, to the Japanese, about 37½ cents; but foreigners are charged for rent of room and for all meals served, which makes the bill considerably more than to a native, the difference in the prices being three or four times; while the majority of hotels prefer not to receive foreigners at all, though this barrier of exclusiveness is being gradually broken down. Chairs, tables and bedsteads are only found in the larger hotels, on the main roads of travel, and they have to be paid extra for. The ordinary accommodation is the floor, with two thick blankets; while the mosquitos, fleas and rats make a night's sojourn in a Japanese hotel a particularly lively one. The verandas of the houses are closed at night-time with a series of sliding wooden doors, and, as the building is usually surrounded by these, the visitor is in an almost air-tight vessel, while the odor that circulates through the apartment is sickening, making one wonder why it is that the Japanese, who are so clean in many matters, so persistently neglect sanitary arrangements, which are generally crude in the extreme. At one end of the open court is a sink, with basins, for the purposes of the toilet; while every hotel has its bath-room for the hot bath, of which the first arrival at night has the first use. Another disagreeable feature with Japanese hotels is that there is no possible way of fastening the sleeping apartment at night, there being no doors as understood in this country. The division between the various rooms, as between the apartments and the outer veranda, is nothing but paper—paper sliding doors, which can be lifted out of their grooves with the greatest of ease, thus converting the house into one large saloon. Notwithstanding this, and strange as it may sound, there is scarcely ever a robbery.—*Journal of Catering.*

WOOD PULP JARS.—An improvement has been introduced in the manufacture of battery jars from wood pulp which considerably increases their power of resisting the battery solutions while removing all danger from the leakage which has heretofore sometimes been the result of imperfect treatment. These jars are made from ground wood in the same manner as the well-known pails and similar utensils, but after having been formed and dried are treated by immersion in a composition which penetrates the pulp and renders the jar acid-proof. It has been found difficult in the past to insure in the case of every jar a thorough penetration of each fibre by the protecting compound, owing to the considerable amount of air which the fibres themselves and the space between them contain. This difficulty has now been happily surmounted by the ingenious device of treating the jars in a vacuum, whereby the air is removed, and then, while the jars are still submerged, admitting the air on top of the fluid used for treating. The air pressure thus forces the compound into every portion of the material forming the jar, and renders certain the protection of every fibre.

ELECTRIC PROSTRATION.—Several cases of electric prostration are reported from Creusot, France. It affects workers under electric light. The light exceeds 100,000 candle power, and it appears that it is this excess of light, and not the heat, which produces the nervous symptoms. A painful sensation in the throat, face and temples is first noticed, then the skin becomes peppery red, and irritation is felt about the eyes; much lachrymation ensues, and these symptoms then disappear, whilst the skin peels off in five days. The effects are comparable to those produced by walking over fresh snow in the sunlight, and may be regarded as a sort of "sun burning."

NATIVE RAISINS.—The raisin crop of California is estimated to be 904,000 boxes of 20 pounds each.

WOMEN VOTERS.

THE PLACES IN THE WORLD WHERE THE SUFFRAGE IS GIVEN TO WOMEN.

Both foes and friends of woman's freedom are unaware how far her suffrage has been gained. They never dream that her liberty covers an area greater than any of the famous empires of history, and than any of today. Both fancy that it exists mainly in one or two obscure nooks. To inform both, to abash foes and cheer the workers for the cause—and to enlighten and arouse the indifferent—the following facts have been toilsomely gathered by a writer in the *N. Y. Graphic*:

The slightest concession of the suffrage to any woman abandons the principle of sex disfranchisement. The matter then becomes merely a question how far such disfranchisement continues, and how long it will.

The large Province of Ontario touches the whole northern bounds of New York and Michigan, part of those of Pennsylvania, Ohio, Wisconsin and Minnesota, and reaches to Hudson's Bay. This great region, throughout which women vote (unless married) on like terms with their brothers for all elective officers save two, has a hundred and two thousand square miles. It is more than twice the size of New York; it nearly equals New York and Michigan together; it equals Massachusetts, New Hampshire, Vermont, Connecticut, Rhode Island, New York, New Jersey and Maryland.

In Wyoming women vote for every office for which their brothers do, and on the same terms. This great Territory has 98,000 square miles. It is half as large again as all New England; nearly as large as New England and New York; about equals New York, New Jersey and Virginia; is more than twice the size of Pennsylvania and Delaware; larger than North and South Carolina, than South Carolina and Florida.

Kansas, the State where municipal woman suffrage exists, contains 82,000 square miles. It is greater than the joint extent of New Hampshire, Vermont, Massachusetts, Connecticut, New Jersey, Delaware, Maryland, West Virginia and Rhode Island—of nine States of the Union combined—and greater than either of the original thirteen, than a majority of the thirteen together, and than either of thirty-two of the to-day thirty-eight.

But there is a greater region where women exercise suffrage, though not at polls. Many will be surprised to learn that this is—Texas! In that State the school officers are chosen by petitions to the county judge for their appointment, and he of course appoints those whose petitions are most largely signed. These petitions women, on the same terms with their brothers, can sign, and thus practically vote without leaving home. Texas has 265,000 square miles, and is larger than California and Oregon; nearly equal to all the Atlantic States but three; to all the other States on the Gulf.

In England, Scotland and Wales women (unless married) vote for all elective officers save one (member of Parliament), on like terms with their brothers. In Ireland women vote everywhere for poor-law guardians; in Dundalk and other seaports for harbor boards, and in Belfast for all municipal officers. In Sweden their suffrage is about the same as in Britain, and they vote, too, indirectly for members of the House of Lords. In Russia women, heads of households, vote for all elective officers and on all local questions. In Austria-Hungary they vote (by proxy) at all elections, including members of Provincial and Imperial Parliaments. In Italy widows vote for members of Parliament. In Finland women vote for elective officers. In British Burmah women taxpayers vote in the rural tracts. In Madras Presidency (Hindustan) they can do so in all municipalities. In Bombay Presidency they likewise can. In all countries of Russian Asia they can do so wherever a Russian colony settles. The Russians are colonizing the whole of their vast Asian possessions, and they

carry with them everywhere the "mir," or self-governing village, wherein women, heads of households, vote. Municipal suffrage now exists in New Zealand, and the Legislature has resolved that women shall vote for members of Parliament. It also exists in Victoria, New South Wales, Queensland and South Australia. The latter's Parliament has declared for women's voting at parliamentary elections too.

The Isle of Man, Pitcairn Island, Tasmania, Ireland, Sardinia, Sicily, Nantucket, Long Island and about two thousand different islands have various degrees of woman suffrage.

A pamphlet by the present writer, called "Freedom's Conquests," about to be issued, shows that the total area of regions where some form of woman suffrage exists is over 14,000,000 square miles, and that their population is nearly 300,000,000. This area is half as large again as the immense British empire; seventy-five per cent. greater than the vast dominions of the Czar; four times the size of all Europe or Australia; double that of both combined; almost equal to the North and South American continents together. Its population equals that of all North America, South America and Africa, and almost equals the population of all Europe.

AIR AND LIGHT.

THE NECESSITY TO HEALTH OF VENTILATION AND SUNSHINE.

If you find frosted window panes, damp pillows and walls, and feel languid, with probably a slight headache when you wake on a cold morning, you can feel pretty sure that the ventilation is imperfect. At this time of year the air is frequently shut out to keep out the cold, and many suffer from the ill effects of an insufficient supply of oxygen and the breathing of air charged with carbonic acid and other deleterious substances thrown off by exhalation. The evidences of bad ventilation may not be decidedly marked, but the silent and insidious injury to health goes on. A family can be comfortable with less heat and more fresh air than is generally supposed, and in rooms heated by furnace or stoves and lighted by gas too much care regarding ventilation cannot be exercised. Equally important with pure air in living apartments is sunshine. It carries with it radiance and cheer and vigor and good health. It is a purifier, warding off cold moisture, gloom, depression and disease. It should be admitted to every apartment of the house, and made welcome at all times. It is a strong preventative to the disorders that visit shaded and musty places. It brings health and happiness that cannot be obtained from any other source. It is nature's own health-giving agent, and nothing can be substituted for it. It has no artificial counterpart. It does not only touch the physical body, but it reaches the mind and soul and purifies the whole existence of man. It may fade a carpet or upholstery, but it will bring color to the cheek, light to the eye, and elasticity to the step. The closed and shaded window may throw a richness of color upon the room, but it will bring paleness and feebleness to the occupants. This health agent is free to all, easily obtained, and one of the most economic health-preservers we have, and ready to impart its efficacy at the rise of the curtain.—*Sanitary News*.

INK SHOWERS.

AN UNACCOUNTABLE AFRICAN PHENOMENON.

Writing from Grahamstown, Cape Colony, Mr. L. A. Eddie gives an account of some extraordinary showers that fell there on August 14 last. A storm commenced near mid-day and lasted till late the next morning. At intervals during this period heavy showers of rain fell, after which large areas were found to be covered with

water as black as ink. Two theories are put forward to account for the observed facts, one attributing it to dust in the air from a recent volcanic eruption, while the other considers the phenomena to be due to the passage of the earth through a dense meteoric stream, the dust of which suspended in the atmosphere was carried down by the rain, and, being essentially iron, formed, on being mixed with the organic acids of the soil, a true ink.—*Scientific American*.

THERMOMETERS.

WHAT THEY ARE AND HOW THEY ARE MADE.

The mercury thermometer is almost universally used as a temperature indicator in the temperate zones. The mercury, or quicksilver, used for the purpose is extracted from cinnabar ore, which is mined in California and Mexico. After undergoing a refining process it is packed in cans holding from one to five pounds each, and sells at wholesale at present for about 85 cents a pound. Mercury, however, is not used in thermometers intended for very cold climates, because it freezes at a temperature of 40 degrees below zero, though it answers all purposes for exceedingly high temperatures. When thermometers are intended for use in frigid zones, spirits have to be substituted for mercury. It is not known at what degree of cold the spirit thermometers will freeze and become useless, for cold of sufficient intensity has never yet been measured where a spirit thermometer has failed to work, even in a temperature of 70 degrees below zero. The spirits used in thermometers are extracted in the usual way from wood, potatoes and grain and are purely colorless. The red color noticed is imparted by aniline dyes, and this is done only for the purpose of rendering the spirits in the tube more easy to see. The addition of the coloring matter interferes somewhat with the sensitiveness of the fluid to atmospheric changes, and is not added to the pure white spirits contained in tubes of thermometers used for scientific purposes, and where the greatest accuracy and most minute variations are of great importance. At best, a spirit thermometer is not equal to a thermometer in which mercury is used, because it is not so sensitive and does not so readily respond to changes of temperature. The length of the glass tube has nothing whatever to do with the accuracy of the indications of a thermometer, and although some are scaled to indicate a temperature as high as 600 degrees above zero, the tube is made long only to afford surface for a scale upon which to mark the great number of degrees, and an instrument an inch long, carefully made, is just as accurate and responsive to variations of temperature as the long one; but it would require a microscope to make the readings. The smallest and most sensitive thermometer made, and the one having the greatest number of subdivisions on the scale, recording fifths of a degree, is that used by the physicians for taking temperatures of the human body. The sensitiveness of a thermometer increases with the relative increase in the size of the bulb. The large upright recording (Seixas) thermometers used by the United States Signal Service and at the various meteorological observatories have the bulbs filled with a mixture of ether and alcohol instead of mercury or spirits. A thermometer is made and adjusted by heating water to the boiling point, placing the glass bulb in the boiling water and then filling it with mercury, spirits or ether till it rises in the tube to 212 degrees—the boiling point. The freezing would answer the purpose equally well for adjusting a thermometer, but it is not used, because a temperature of 212 degrees is much more easily obtained than one of 32 degrees. Special thermometers of great accuracy and extreme sensitiveness are made for special purposes. Thus a thermometer with a scale running as high as 600 degrees is made for taking the temperature of ovens, and the chefs of hotels and restaurants, by computing the number of pounds to a piece of meat and the temperature of the oven, can tell how long to allow

it to cook and know exactly when it is "done to a turn." Brewers also use a specially made instrument with a register running as high as 550 degrees for taking temperatures of their mash tubs, while confectioners use a thermometer indicating as high as 450 degrees to ascertain when their candy has been boiled to a sufficiently high degree. There are three thermometrical scales in general use in different parts of the world. All English-speaking peoples make use of a scale invented by a German by the name of Fahrenheit, and named after him. The Germans tell whether it is warm or cold by a scale invented by and named for a Frenchman named Reaumur, while the French, Italians and others ascertain the temperature by a scale founded upon the metric system and called Centigrade. The following table shows the relative systems compared with each other at the boiling and freezing points:

	Water Freezes.	Water Boils.
Fahrenheit.....(deg.)	32	212
Reaumur.....	0	80
Centigrade.....	0	100

The Centigrade scale is used by scientists exclusively as being the most naturally arranged. The divisions being based upon the metric, or decimal system, the figures are much more readily handled than those of the Fahrenheit or Reaumur scale. The glass bulbs and tubes used for thermometers in this country comes from glass works in various States, but the greater number and those of the best quality are made at Rochester, N. Y.

INSECT LORE.

SOME POPULAR SUPERSTITIONS RESPECTING INSECTS.

The Koran says all flies shall perish save one—the bee fly.

It is regarded as a death warning in Germany to hear a cricket's cry.

The Tapuya Indians in South America say the devil assumes the form of a fly.

Rain is, in some parts of the country, expected to follow unusually loud chirping of crickets.

Flies are regarded as furnishing prognostications of the weather and even of other events.

Spaniards, in the sixteenth century, believed that spiders indicated gold when they were found in abundance.

In Germany it is said to indicate good luck to have a spider spin his web downward toward you, but bad luck when he rises toward you.

Although a sacred insect among the Egyptians, the beetle receives but little notice in folk lore. It is unlucky in England to kill one.

The grasshopper is a sufficiently unwelcome visitant of himself in this country, but in Germany his presence is further said to announce strange guests.

The ancients generally maintained that there was a close connection between bees and the soul. Porphyry speaks of "those souls which the ancients called bees."

German tribes regard stag beetles as diabolic, and all bees are detested in Ireland, more especially a bronze variety known as "gooldie." It is also believed that to see a beetle will bring on rain the next day.

STEAM DISINFECTION.—The experiments of steam disinfection, recently tried in Jacksonville, have proved that the steaming process is thoroughly efficacious in destroying microbes in general, and also the yellow fever microbes. Active germs placed by Dr. Gibier in a gelatine-filled glass tube germinated, showing unmistakable life and activity. Microbes subjected to the steaming process, though for only ten minutes, and under very imperfect conditions, were afterward subjected to the same cultivation, but remained entirely inert.

CIGARETTE FIENDS.—It is said that people who eat garlic and smoke cigarettes will never be attacked by yellow fever. Perhaps not; but such people ought to be quarantined, all the same.

LENGTH OF LIFE.

WHAT THE DOCTORS THINK CONCERNING THE PROLONGATION OF HUMAN EXISTENCE.

The primary purpose of pathologists and medical savants is the prolongation of human life, and within the past cycle rapid progress has been made toward the elimination of this problem. Epidemics are not only controlled but prevented; sanitary and hygienic laws have been formulated and proven; the cause of maladies discovered and their treatment determined; the average length of life increased, and the death rate percentage lowered. Life is more exhausting in its demands than formerly, more intense, hurried and exciting, or the advancement of vitality and longevity would be more marked and apparent. The rapid dissemination of ideas, the facilities for travel and observation, the demands of citizenship, all the friction of modern life, with its rapid and unceasing series of impressions, call for constant exertion, which leads to fatigue, premature wear and decay, finally death, and with the idea of the prevention of these divers infelicitous results as a nucleus, have been promulgated a nebula of most contradictory and confounding theories. There is the man who drinks only cold water, the man who drinks only boiling water, and the man who drinks no water at all, each living to a remarkable age, and each advocating their own particular Ponce de Leon fountain; vegetarian dietetic cranks, like the physician Sanctorius, spending their lives in a pair of scales weighing their food, of whom Dr. Shradly of this city said, "that the prolongation of life was to a certain degree dependent on their elimination, for they would with their patent foods and nostrums debilitate the stomach and impoverish the vitality of the whole race, could their enthusiasm be unrestrained;" men who have attained great age through the invigorating results of frequent baths, and centenarians who have lived, not because of a lack of bathing, but in spite of it. One's faith in the beneficial effects of exercise even is shaken by the authentic account of one Rev. William Davis, of Hereford, aged 105 years, who for the last thirty-five years of his life took no exercise at all, ate hearty food, and never had rheumatism or paralysis. A little while ago it was distilled water and phosphoric acid that was to prolong our lives beyond the allotted three score years and ten; but now it is the use of common salt, according to Dr. Burggraave, that is to prevent all disease and ultimately result in centenarianism. But it was reserved to Dr. Villerme, of Paris, to discover that comfortable living, in the most complete sense of the word, was the surest and most potent agent in the prolongation of life, and with his diagnosis modern physicians concur most emphatically.

Dr. Hammond had some peculiar and utopian ideas of longevity, which unfortunately have not the corroboration of actual experience. His theory is that the natural waste of the different organs in the physical system which occurs in the performance of their various functions can be estimated and analyzed, and that it can be supplied by artificial means so exactly that a man might live interminably if he would submit to the conditions and restrictions required. But the medical fraternity are skeptical concerning this theory, and claim that the body is a kind of machine which, if carefully used, never overstrained or overworked, all its wheels, pistons and valves kept well lubricated and free from foreign deposits, and its driving power carefully supplied with the fuel that produces most force, will endure for many years longer than if abused and neglected, like a delicate machine in the hands of a clumsy apprentice. They say, too, that men are learning rapidly something of the mechanism of this wonderful apparatus, and to understand that if one wheel or set of wheels are used constantly they will wear out first and use their usefulness. A bank clerk who continually uses that portion of his brain with which he makes arithmetical calculations wakes up some morning unable to think at all and

too ill to pursue his avocation. The wheel he calculated with has tired out and is set fast, and the rest of the machinery has become clogged and rusty from disuse. The old-time physician would put leeches or blisters on his head and give him an anodyne to stop his sufferings. The modern physician sends him into the country, oils and cleans up the rest of the machine, sets it all in motion, and by and by the little worn-out wheel gets to whirling again as merrily as the rest. But in spite of every scientific precaution a man cannot prevent certain physiological changes which ultimately result in death. The elasticity of the arterial coats slowly diminishes, his liver decreases in size, the patient pump in his left side gets worn in the valves and wheezy, and the machinery is rubbed so thin by constant friction that a little strain snaps a pulley or lever. According to the prophet, "the grinders cease because they are few," and "the grasshopper shall be a burden, and desire shall fail, because man goeth to his long home," notwithstanding all plausible and cunningly devised theories. Another argument is that nature's forces cannot be satisfactorily supplied by artificial means, however scientific. No one ever walked as well on a wooden leg as on one of flesh and blood, and the internal organs are equally embarrassed and awkward by the introduction and assistance of the most kindly disposed foreign agent.

Dr. Fordyce Barker and Dr. Shradly both agree that the average length of life is increasing; that people are learning to take better care of themselves; that cities are more sanitary and hygienic; that plagues and pestilences are to a great extent prevented and controlled, and that that life is most vital and prolonged in which every organ is equally and harmoniously exercised, not in unnatural haste and eagerness, but in congenial and continuous energizing action.

Dr. Barker says: "Waste is as essential to life as repair, and as waste is only brought about through exercise, that work is the best life promoter and preserver."

Dr. Shradly aptly illustrates this axiom by saying: "To make your grate fire glow with life and warmth, you must rake out the ashes and cinders before you put on more coal. It doesn't do any good to keep heaping on more fuel when there isn't any draught." He also says that "it is extremely difficult to lay down general rules for the prolongation of life or the preservation of health, because the physical being of each individual is peculiarly his own and unlike any other. You might as well try to fit all men with the same coat. It may be a very good-shaped garment, but it will pinch one man in the shoulder and be too short for some one else in the sleeves. You can't put a square peg in a round hole, and you can't make the diet that suits one man nourishing to every other man. The farmer following his plough in the crisp spring air comes in and eats a good dinner of corn beef and cabbage or a piece of pork that would kill a professional man, and enjoys it because he needs it. His blood is bounding through his veins calling for nourishment; every muscle is in a state of activity, and his stomach wants to act, too—wants something to chew on, and if it gets out of work when everything else is in motion it becomes clamorous and painful, and the cabbage is good occupation for it. Whereas the professional man, in a state of inactivity, doesn't want to feel a hundred little wheels buzzing in his stomach when all the other machinery is still. Physicians are learning to help men to live comfortably within their environments and conditions, helping them too much, I think, sometimes, for they produce a sort of survival of the unfittest in the prolongation of the lives of chronic and suffering invalids, cripples and consumptives, who must suffer until they die, and whose misery should in mercy be shortened. The science of medicine has become greatly revolutionized, and the physician of to-day must understand something besides the application of leeches and blister and the use of the lancet. Modern study and research is devoted largely to the discovery of the cause of disease and to the quickest and surest methods of eliminating its cause rather than in temporarily relieving its discomfort; and the prevent-

ing of disease rather than its cure is the great aim of every pathologist. I have several patients who come to me regularly, even if they are in good health, to have me advise them concerning the best means of living with a view of prolonging life, to have me look over their machinery and see if it is all sound and in good working order. I am a kind of an engineer, putting on a little oil here, tightening up a screw there, in the intricate and beautiful machine which is best off when least tampered with. You know the nervous man who is always looking at the works in his watch gets dust in and then he needs must blow the dust out, and this creates moisture. The moisture produces rust, and the jeweller tinkers away at it to get the rust out, and there's always something the matter with that man's watch. So nervous people, continually interfering with nature's true processes of life, usually succeed in keeping their system continually out of order. An inactive person suffers from indigestion, perhaps slightly, from simple want of exercise, and so he feeds himself on some of the advertised patent foods, which simply put his stomach in a sling, figuratively speaking. Put your arm in a sling for three days and it will pain you from simple lack of exercise. Take it out and do violent work and it will pain you then through weakness. Because it pains you, tie it up three days more, and try it again. More pain, more weakness, the course persisted in for some time, and a helpless arm results. So the sedentary man puts his stomach in a sling with his patent, half-digested food. Of course it pains him, for nature resents inactivity, and of course the longer it is kept idle the more helpless it becomes. The diet I recommend to a healthy man or woman is that which his or her appetite craves, and I would have them live in utter unconsciousness of any of the organs that perform the functions of the body unless sharply reminded of them by disease. Food should be varied in character, appetizing and nourishing. Eat what the sentinel of your appetite admits, and, if it proves to be an enemy, see if in some way you cannot conciliate it by the exercise of the rest of the machine. The man who is always examining with a microscope the water he drinks, groping for microbes in the dust about him, and every time he catches a little smell of onions stealing up from some area, pours peppermint in the pipes under the delusion that he smells sewer gas, has a kind of mind malaria, and doesn't live out half his days. Interest yourself in some wholesome, active, congenial employment that will call into execution the best powers within you. Complement the activity awakened in a portion of your machinery by this work with some kind of pleasant and interesting exercise for those organs not called into execution, and, above all, don't worry, don't hurry and strive, but extract all the enjoyment possible out of each day's life, and your life will be prolonged in peace, and not misery of disease and pain. Women are deteriorating in vitality and longevity, and it is largely due to the nervous strain they are continually under, to their vanity and love for dress and display, no matter how injurious its requirements are to their comfort and well-being. But there is already the dawning of a better intelligence among some of them, and it is to be hoped that it is the beginning of a better era. I have a patient who, although 92 years of age, still retains the possession of all his faculties, enjoys his life, has no disease, and has an ambition to become a centenarian that sends him around here occasionally to be looked over a little to see if there are any loose screws in the life machine. He is a man who has lived well and temperately, with sufficient means to enjoy the comforts of life and the rare judgment to make the most of each day's opportunities. He is very affectionate toward his wife, with whom he has lived happily for more than fifty years, and his pleasant home and family relations have, I think, been one of the causes of his long existence. I think it is a mistake to consider that a man's career is ended at 70, for many men have had the most brilliant successes after that age. Army officers are, in my judgment, retired too early. Gen. Sherman is

more capable of commanding the forces of the United States to-day than he was when he led the army through Georgia, and none dare question his bravery. There is a peculiar instance illustrating this point of an old man, who, feeling that his course was nearly run, divided his property among his sons, retaining only so much of it as he needed for the few remaining years of his life. Before he died he had by his shrewd business tact increased his little fortune to its former size and died possessed of more money than his sons ever acquired. Disease is a mean fellow; it always strikes a man when he's down. Two men come into a car together—one overworked, depressed, worried and exhausted, the other interested in his work, which employs every faculty to the uttermost, comfortable and happy, with the conviction that his wife is the dearest woman in the world, his children as bright as any one's children, and that he isn't a very bad sort of a fellow himself. A draught blows through the car as usual, striking both men. They both take cold. One has pneumonia and dies, and the other a cold in his head, which he sneezes away in two days. It is easy to draw the inference and with it to deduce the formula that comfort, cheerfulness and hopefulness are the best promoters of existence.

Dr. Humphrey, of Great Britain, gives his premises for longevity as follows:

"First—The prime requisite is a faculty of age inherited in the blood. The body must be wound up and sent into the world with the initial force necessary to carry on the living processes through a long period; that the several organs be so adjusted to one another as to form a well balanced whole, and that the functions be so harmoniously performed that there will be no cognizance of imperfection or ailment.

"Second—The body must be well developed, capable of much endurance and of quick and complete restoration from fatigue, the nervous system energetic, and the intellectual powers correspondingly developed.

"Third—Owing to the inherent good quality of the nutritive processes, degenerate change will be slow to manifest itself if to the foregoing be added ordinary opportunities of living well, under sanitary conditions, together with temperance in meat eating and alcoholic beverages."

DEW AND FROST.

A POPULAR EXPLANATION OF THEIR OCCURRENCE AND CAUSE.

If, after a clear, cool night, we observe the surface of the ground, we often find it covered with moisture, as if it had rained during the night. This familiar phenomenon, known as the fall of the dew, is dependent upon some very interesting and important scientific principles. Air possesses the property of holding a certain amount of water vapor, the quantity depending upon the temperature. If, at a temperature of 60 deg., for instance, a cubic foot of air held as many grains of water in the form of vapor as it was possible for it to do, it would be said to be *saturated*, just as a quantity of water would be saturated with salt when no more of that substance could be dissolved in it. Now, if the temperature of the air was increased to 70 deg., its power of absorbing water vapor would be increased; and if it was in contact with water or a moist substance, evaporation would commence, and continue until the air was saturated once more. If, on the contrary, the temperature of the saturated air was lowered, it would become more than saturated, and the excess of water vapor would be precipitated out in the form of finely divided particles. One of the most familiar examples of this phenomenon is shown by our breath on a cold morning, when the water vapor in the warm, moist air from our lungs, on passing into the colder outside air, condenses in the cloud-like form so frequently observed. When this takes place in nature, on a large scale, by a cold and a warm body of air coming together, fogs,

clouds or rain are produced. It is a curious fact that the water thus precipitated from a state of vapor is not in the form of little drops, but of hollow vesicles, as they are termed, like minute soap bubbles. This peculiar form is common to condensed water vapor, whether in the form of steam escaping from a tea kettle or boiler, or the fogs and clouds which float in the air. It is only when the vesicles unite together that ordinary drops are formed. This vesicular structure probably helps in maintaining the clouds at their high elevation. Whatever the quantity of vapor in the air, there is a certain temperature at which the vapor begins to precipitate, known as the *dew-point*. If a goblet filled with ice water is brought into a warm room, the air immediately surrounding it is cooled below the dew-point, and a copious deposit of water is formed upon its sides. This water does not ooze out through the glass, as some people suppose, but is squeezed out of the air, as it were, by the cooling effect of the ice. We thus see that it is only necessary to cool the air sufficiently to obtain a copious deposit of moisture, and if the temperature of the ground should fall low enough, dew would certainly be precipitated upon it; but it is noticed that dew falls upon warm nights, when the temperature of the air is far above the dew-point. What, then, causes the cooling of the earth upon which the dew is so abundantly deposited? This is best explained by the principle of radiation. If we hold our hand at some distance from a block of ice, we shall feel the cold very perceptibly. The hand radiates its heat towards the ice, which absorbs it so rapidly that the temperature of the hand is lowered, and a sensation of cold is felt. Now, just above the comparatively thin stratum of air which surrounds our earth are the regions of space, where the temperature is far lower than any with which we are acquainted; and it is to these cold regions that the heat of the earth, the grass, and other bodies is radiated in the clear summer nights, after the heat of the sun is withdrawn. As they become cooled by radiating away their heat, they reduce the temperature of the air surrounding them below the dew-point, and the dew is thus precipitated, not by "falling," as the common phrase implies, but from the air immediately in contact with the object on which it is deposited. This theory of the formation of dew also explains many of the accompanying phenomena. A gentle wind favors the deposition of dew, as it brings fresh supplies of moisture-laden air into contact with the cold earth or foliage. A brisk wind, on the contrary, prevents its formation, as the air does not remain long enough in contact with the cool bodies to deposit its moisture. No dew falls on cloudy nights, because the clouds act as a screen, and prevent the radiation from the earth's surface to the colder regions beyond. It is noticed that the dew is not deposited in equal quantity upon different substances. A bright piece of metal exposed on the ground will remain quite dry, while the surrounding grass will be loaded with moisture. This is due to the fact that different substances possess different capacities for radiation. In general, it may be said that dark-colored, rough bodies are good radiators, while smooth, bright substances are poor ones. Air also is a comparatively poor radiator, or else it would cool itself down below the dew-point, and form fogs, much more frequently than at present. Hoar frost is, of course, simply frozen dew. In the spring and autumn the temperature of the earth may not only fall below the dew-point of the air, but even below the freezing point of water. The flocculent form in which hoar frost is often deposited shows that the ice has been formed directly from the condensing vapor, without passing through the intermediate stage of water. In some parts of India ice is manufactured by this means: Shallow earthenware dishes of water are exposed to the clear sky at night, and the water is often frozen even when the temperature of the air is as high as 50 deg. Fahr. Early crops are often frozen in the same way; and farmers sometimes build bonfires in their fields at night, so that the smoke shall form an artificial cloud, and prevent the radiation and consequent cooling. Finally, the beneficial effect of the heavy dews of midsummer to the crops, when parched with drought, is of great value, and they replace to no small extent an insufficient rainfall.—*Pop. Sci. News.*

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

January.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, quail, chicken, duck, turkey, rabbit, goose.

FISH.—Bream, cod, crabs, eels, carp, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, cauliflower, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, squash, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

CLAM BROTH.—Chop fine, twenty small, hard shell clams, add a pint of clam broth or hot water, and a pinch of cayenne (no salt); simmer thirty minutes, strain and serve the clams on buttered toast. Serve the broth in cups. A little butter may be added if desired.

STEWED EELS.—One eel, two dozen button onions, a few mushrooms, yolks of three eggs, white wine, salt, spices, herbs, juice of two lemons. Skin an eel; cut it into pieces, and boil in the white wine seasoned with the salt, spices and herbs. Brown the onions in an earthen pipkin; season and besprinkle with flour; then add the gravy the fish was boiled in, and let simmer gently. Put the pieces of eels in, adding the mushrooms. Let boil for ten minutes, and finish with the egg yolks, mingled with the juice of two lemons.

TURKEY HASH.—Stir a piece of butter, rolled in flour, into a small quantity of milk or cream, and add thereto a little veal gravy. Let this boil up; meanwhile mince finely some cold roasted or boiled turkey, but not too small. Put into it the sauce, to which add grated lemon-peel, white pepper, pounded mace, a little mushroom ketchup, or mushroom powder, simmer it up and serve. Oysters may be added.

PUFFS.—Take a pint of milk, and when it boils stir in as much flour as will make it a thick batter. Add three well-beaten eggs, and two or three drops of oil of cinnamon, or any other flavoring. Dust a large flat plate with flour, then with a spoon throw on it the batter in the form of balls or fritters, and drop them into boiling clarified dripping or lard. Serve them with grated loaf sugar strewed over. The batter may be made into a pudding, adding with the eggs one ounce of salt butter. Boil and serve it with a sweet sauce.

BIRD'S-NEST PUDDING.—Pare five apples, enough to fill the pudding dish, remove the cores with an apple corer, and steam until tender. Make a custard of three eggs and milk enough to nearly cover the apples; sweeten to taste, add salt and nutmeg to season, and bake until the custard sets.

VELVET CREAM.—Dissolve half a box of gelatine in one coffee cup of milk over the fire; add the juice and grated peel of one lemon. When the gelatine has dissolved put in one coffee cup of white sugar. Let it cool slowly; strain it and add one and one-half pints of rich milk. Stir until cool, then pour into a mould previously wetted. Vanilla may be used instead of lemon.

DELICIOUS CAKE.—Two cups of white sugar, one cup butter, one cup milk, three eggs, three cups flour. Stir butter and sugar together and add the beaten yolks of eggs, then the beaten whites. One teaspoonful of Horstford's baking powder sifted. With the flour flavor with the grated rind of a fresh lemon and half the juice.

WHAT BEEF COSTS.

THE PROFITS OF THE RETAIL BUTCHER EXHIBITED IN
DETAIL.

The subjoined article, which appeared in the AMERICAN ANALYST of January 10th and 24th, has attracted such wide attention and has evoked such numerous orders for copies of the issue containing it, that in order to meet the demand we feel constrained to again republish it:

The question has frequently been asked why it is that when the newspapers quote the wholesale price of beef at from four to seven cents a pound, the consumer is compelled to pay as much as twenty or twenty-three cents a pound. To answer this question intelligently the AMERICAN ANALYST detailed one of its staff to make the necessary inquiries, and we give herewith the itemized results. A carcass of beef, weighing 750 lbs., cut into loins, rounds, chucks, ribs, plates, shanks, flanks, kidneys and necks, will make the following product, at the retail price stated. The average wholesale

price of such a carcass in New York is seven cents, or \$52.50 for the carcass, which, when retailed, as shown by the table subjoined, would make \$92.12, or a profit of \$40.62 upon an investment of \$52.50, which would certainly appear to the outside observer as a pretty good profit to the retailer. It is true that from this profit must be deducted the expenses of the retailer's business; but nevertheless, it also proves conclusively that the retail butchers have no grounds for complaint against the Chicago dressed beef men, nor can the public have unless it is that the prices of meat at retail stores are as high as they were when cattle sold at higher prices; but the remedy for this should be demanded of the retailer, whose prices have not been reduced in proportion to the wholesale price. We may add here that the retail prices given are the lowest prevalent, and where there is any variation, it will be found that the prices demanded by retail butchers are somewhat higher. In any case, it should be borne in mind that as for quality Chicago dressed beef is always the best, having the advantage of more careful selection, better dressing, and consequent tenderness.

THE COST OF BEEF.

One Steer, weight 750 lbs.—Cut as below.

PRODUCT.	lbs.	CUT PRODUCT.	lbs.	PRICE PER LB.	AMOUNT.
				Cents.	
Loins.....	159	Porterhouse Steak.....	55	23½	\$12.93
		Sirloin Steak.....	85	21	17.85
		Suet.....	19	4	76
2 Rounds.....	154	Round Steak.....	74	17	12.58
		Boiling Piece.....	16	7	1.12
		Roast Rump.....	39	15	5.85
		Soup Shank.....	25	5	1.25
2 Chucks.....	138	Shoulder Steak.....	74	11	8.14
		Boiling Pieces.....	64	7	4.48
2 Ribs.....	74	Roasts.....	74	19	14.06
2 Plates.....	120	For Salting.....	120	7	8.40
		Boiling Pieces.....	21	7	1.47
2 Shanks.....	46	Soup Bones.....	25	5	1.25
		For Salting.....	13	7	91
2 Flanks.....	18	Flank Steak.....	5	11	55
2 Kidneys.....	34	Kidneys and Suet.....	31	4	1.24
2 Necks.....	7	Necks and Bones.....	7	4	28
		Shrinkage in Cutting.....	3	..	....
Total.....	750 lbs.		750 lbs.		\$93.12

RAISIN WINE.

HOW IT IS RECOGNIZED AND DETECTED.

The report of the Union of Swiss Analysts upon food adulterations published in the *Reveu International des Falsifications* of October 15, 1888, contains the following reference to raisin wine:

The manufacturing of wine made of dried raisins having extended from France over Switzerland and other countries, necessitates chemists to pay due attention to it, as the manufacturers pretend that this spirituous liquid cannot be ascertained by chemical proceedings. It has, however, been proved several times that, after some practice, the wine of dried raisins can be distinguished from natural wine by chemical analysis. The case is, however, rendered more difficult, when a mixture has to be ascertained, and this is utterly impossible when the natural wine predominates. The following rules resulted from the discussions on this subject. Wine of dried raisins distinguishes itself by the extraordinary proportions in its composition, chiefly by a great quantity of sugar and volatile acids. The mineral substances almost ever contain a larger quantity of chlorides, lime and iron, than other wines. The wine of dried raisins must be regarded as an artificial wine. This second rule is based on the fact, that the said wine is often made of drugs, and in some cases the quantity of these drugs prevail.

NATURAL GAS.

THE GREAT COMMERCIAL WONDER OF THE DAY.

People often talk of the advantages of natural gas as a fuel without having an adequate idea of its importance. It is to-day the greatest commercial wonder of the age. No one can ponder over the following figures without being deeply impressed: It is only fifteen years ago, says the editor of *Stoves and Hardware*, published at St. Louis, that natural gas was first used as a fuel, yet to-day there is required to pipe it 27,350 miles of mains. In Pittsburg alone 500 miles supply 42,698 private houses, 40 iron mills, 37 glass works, 83 foundries and machine shops, and 422 miscellaneous industrial establishments. An idea of its value as fuel can best be obtained when the value of 7,000,000 tons of coal is estimated, as it is asserted that this amount of coal is annually displaced by natural gas. An idea of the effect a retarded production has in advancing prices can be seen in the shut-down movement in oil production. This commenced in earnest just about a year ago, and the following is the result: In 1886, when no attempt was made to lessen production, the average run from wells was 70,666 barrels per day. In 1887, when there was less than two months' organized effort in this direction, the average daily run was 63,545 barrels. In ten months of 1887, ending November 1st, when the movement was on foot in earnest, it was less than 44,000 barrels per day. The average price of certificates for the first ten months of 1887 was 64½ cents. For the first ten months of 1888 it was 87 cents, an increase in value of 34½ per cent.

FOOD PRESERVATIVES.

THE EFFECT OF ANTISEPTICS UPON THE DIGESTIVE FUNCTIONS.

In a pamphlet on the effects of food preservatives on digestive agents, by Henry Leffman, M. D., and William Beam, M. A., the authors say that the use of antiseptics in perishable articles of food has become quite general in recent years, and has been to a certain extent the subject of legislation. Salicylic acid has been probably the most used; and while the sanitary authorities in different countries have, as a rule, opposed its use, there has been no positive evidence of its injurious action, even when continued for some time. Lehmann published in Pettenkofer's *Archives of hygiene* several instances in which healthy male adults had taken for many days considerable doses of this acid without apparent injury. While there may be a legitimate field for the use of these agents in articles of food in a highly perishable character, and especially where the addition is made known, there can be no question that their indiscriminate use is dangerous. Independently, however, of any directly injurious action, it is important to inquire how far they may interfere with the nutritive or medicinal value of any articles with which they may be associated. The matter has been brought prominently to the notice of these chemists, in consequence of some analyses made by them in which the free use of salicylic acid in beers and malt extracts was detected. Similar results in regard to beers were found by various State boards of health and by the Department of Agriculture of the United States Government. It becomes important to inquire how far the presence of the substances may interfere with the diastatic action ascribed to preparations of malt. Of eleven samples tested, including all the extracts widely known in this market, only four had any appreciable effect on starch, and but one of these was strikingly efficient. They have undertaken to determine what retarding effect such preservatives may possess. The antiseptics selected were salicylic acid, boric acid, sodium acid sulphite, saccharine, beta-naphthol and alcohol. The sample of beta-naphthol was of the form now sold under the name 'hydronaphthol.'

From the experiments it will be seen that salicylic acid prevents the conversion of starch into sugar under the influence of either diastase or pancreatic extract, but does not very seriously interfere with peptic or pancreatic digestion of albumen. Saccharine holds about the same relation as salicylic acid. Sodium acid sulphite and boric acid are practically without retarding effect. Beta-naphthol interferes decidedly with the formation of sugar by diastase but not with action of pancreatic extracts on starch. Peptic and pancreatic digestions of albuminoids were almost prevented by this agent. It is obvious from these experiments that the indiscriminate use of these agents in the preservation of food is to be regarded as objectionable and a proper subject of sanitary supervision. Their use is scarcely allowable under any circumstances, and certainly only when the nature of the preservative, and the amount are distinctly stated. These remarks apply more particularly to salicylic acid, saccharine, beta-naphthol; but the use of boric acid and sodium acid sulphite may be brought also under the same restrictions, because their actions on the animal functions are not yet thoroughly investigated.—*Science*.

IS LIFE INSURANCE SAFE?

A COMPANY INCREASES ITS DIVIDENDS AND SURPLUS IN THE FACE OF HALF A MILLION LOSS.

When we read official statements like the one subjoined, made last week by the President of one of the most conservative institutions in the country, the question naturally arises: If a mutual company can afford to lose nearly half a million of dollars, and yet increase its surplus and pay its policy holders a larger return than usual of what they have overpaid, how much has life

insurance cost in such a company more than it would have cost in a company which had no such loss? and can an insurer in such a company reasonably hope that his family will be promptly paid in full, without quibbling?

HARTFORD, Conn., Jan. 24.—Col. Jacob L. Greene, President of the Connecticut Mutual Life Insurance Company of this city, made the following announcement this evening:

"It has just been discovered that the financial correspondent of this company at Indianapolis, after sixteen years of service, is a defaulter. The extreme amount involved is \$500,000. He has restored to the company property which may reduce the actual loss to \$400,000. The amount of the loss will not in any degree affect the company's solvency, nor even interfere with its regular dividends. The past year has been very prosperous, and in spite of this unexpected loss the company will make a heavy gain in assets, pay a larger dividend than last year, and probably increase its already large surplus. Its forthcoming annual statement will show assets of the most solid character amounting to \$57,000,000, with a surplus of about \$5,250,000."

TRUSTFUL.—Mrs. Della Creme (wearily): "I know everything we eat is adulterated; but what can we do, Reginald? We must trust our grocer." Mr. Reginald Creme (drearily): "Ah, yes, Della, very true; and if—oh, if—our grocer would only trust us!"

THE latest thing in homeopathy is the administration of snakes, instead of whiskey, as a remedy for delirium tremens. The remedy is certainly a logical one, from the standpoint of *similia similibus curantur*, and is scarcely more ridiculous than some of the other remedies employed by that school.—*Medical Age*.

HIGH PEAKS.—According to the latest accounts the highest mountain peak on earth is Mount Hercules, in New Guinea, which is 32,768 feet high. Mount Everest, of the Himalaya range, Asia, long called the highest peak, is only 29,002 feet high. How long will Mount Hercules rule as the king of mountain peaks?

ROMAN REMAINS IN ENGLAND.—A recent discovery in Bath, England, is the recently unearthed Roman baths. They are in almost complete preservation; the lead lining and lead piping nearly perfect, the steps, the columns, the carvings, in wonderful preservation, and the whole probably forming a more complete specimen of this class of Roman work than exists anywhere else.

ANOTHER TERRIBLE POWDER.—At the Royal Powder Factory of Wetteren, in Belgium, a new gunpowder is being made. They call it poudrepapier, or paper-powder, and it is said a charge of 2½ grams (39 grains) gives, in a rifle of small calibre, an initial velocity of 660 yards to the ball. This is equal to, if it does not beat, the Lebel powder. The additional advantages are attributed to it of not smearing the barrel, of producing no smoke and of causing little recoil.

THE HOUR OF DEATH.—It has been said that the greatest number of deaths occur between four and six o'clock in the morning. As a matter of curiosity, and to ascertain whether there is any truth in this statement, Dr. Charles Féré has tabulated the hour of death of all the patients dying in two of the hospitals in Paris for the past ten years. He found there was no preponderance of mortality at any particular hour, although there were somewhat fewer deaths between seven and eleven o'clock in the evening than at other periods of the day.—*N. Y. Medical Record*.

CLOTHES-PINS.—Where do all the clothes-pins go? Innumerable dozens of them are flowing out in the world continually from the factories, and a single expert packer handles 72,000 of them in a day, packing 100 boxes at a cent a box. They are made of ash, beech, birch and maple. The logs are cut into lengths of 31 inches, these are sawed into blocks, the blocks into sticks and the sticks into shorter ones, the length of the clothes pin, about 5½ inches. These are fed into a lathe by an endless belt. The lathe turns them into shape and passes them along by a turn-table to a saw which cuts out the slot. When the machine is through with them it drops them into a box or barrel. The pins are then dried in a drying house and then put, 20 to 40 bushels at once, into a slowly revolving cylinder, and the friction caused by their tumbling about in this cylinder polishes them. A single plant for making clothes-pins costs from \$1,000 to \$12,000. But what becomes of the pins?

CAUGHT BY A LOAF.—A loaf of bread has just played an important part in the detection of a most brutal murder. It appears that some time in August last a poor laborer's wife was cruelly murdered in France for the sake of the few francs she had in her pocket. Suspicion pointed to a tramp who had been seen in the neighborhood, and who, a few hours after, was proved to have spent in a wine shop the, for him, important sum of three francs. The suspected man was arrested, but the magistrate had little or no proof against him. Only a very little proof, consisting of a hunk of bread that had been found near the victim. The servant of a neighboring farm-house deposed that the bread had been given by her to the man. "Could she swear to the bread, and on what grounds?" asked the magistrate. She could swear to the bread on the following grounds: The brick floor of the oven in which the loaf had been baked was minus one brick. Part of the dough had bulged out in a particular fashion during the baking in consequence thereof, and she noticed the fact when she cut it and handed it to the beggar. The Assize Court of the Department of the Loire et Cher therefore condemned the man to death.

BUSINESS NOTES.

SPURIOUS "ACID PHOSPHATE."

OFFICE OF DR. MORRIS H. HENRY,
581 FIFTH AVE., NEW YORK, Oct. 27, 1888. }

MR. N. D. ARNOLD, Rumford Chemical Works, Providence, R. I.

My Dear Sir: I am very glad, indeed, to see that you have issued a caution to physicians who prescribe "Acid Phosphate." The notice is timely. Within a few months I have seen cases where spurious preparations were (unwittingly) used without benefit. My own experience in the administration of your preparation dates back to 1870. I think I was one of the first to call especial attention to their great value as a beverage at meals, to assist digestion, to avoid dyspepsia, relieve nervousness, and as an aid to induce sleep. I have had no reason to change my views. My additional years of experience have confirmed my first impressions.

I am, my dear sir, faithfully yours,
(Signed) MORRIS H. HENRY.

REMOVAL.

Frank LaMauna, the sole agent in the United States for the celebrated Billet Sardines, J. Le Marchand boneless Sardines and Gourmet Olive Oil, has removed his offices to 24 State Street, New York, and has taken Messrs. Arthur Azema and Jules Farnan in partnership with him. The business has become so large as the demand for these goods has been rapidly extended, that no one man could handle it: hence this new arrangement. As no better nor purer goods are imported, this explains the large popular demand for them.

HORSFORD'S ACID PHOSPHATE.

IN DIGESTIVE DISORDERS.—Dr. E. V. Wright, Saratoga Springs, N. Y., says: "I have used it for years, and my experience has proved, beyond question, that the peculiar combination of phosphates renders it most valuable in the treatment of digestive disorders."

CUTTER WHISKEY.

This celebrated brand of whiskey has now been before the public for many years, and has stood the crucial test of the taste of the better classes. Distillers may say what they please, and editors may write the most scientific dissertations on whiskey, but, after all, the whiskey which best suits the consumer is the one which will have the command. It must always be the same shade and flavor, and no evil results must follow its use. To do this it is necessary for those who put up such a whiskey to have good judgment in selecting the whiskey, plenty of capital to invest when such goods as they desire are in the market, experience in knowing where such whiskey may be found, and a determination to be honest under the greatest temptation. It can be readily understood that where such a business has been once successfully established, a little laxness of conscience would bring enormous profits, and might be carried on for some time without detection. Thus we have established an ideal, and we can honestly point to the owners of the Cutter whiskeys trade mark, Messrs. C. P. Moorman & Co., of Louisville, as having done precisely what we say. They have placed the Cutter whiskey in the front rank of whiskeys and have steadily maintained it there, keeping up quality and standard under every circumstance.

CALIFORNIA Fine Table Wines

From our Celebra-
ted Orleans
Vineyard.

Grand Harvesting & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, Agents.
C. JEVNE & CO., - - Chicago,

FACIAL BLEMISHES.



The Largest Establishment in the World
for their Treatment. Facial Develop-
ment, Hair and Scalp, Superfluous
Hair, Birth Marks, Moles, Warts,
Moth, Freckles, Wrinkles, Red Nose,
Acne, Pimples, Black Heads, Scars,
Pitting, etc., and their treatment.
Send 10 cts. for book of 128 pages,
treating on 25 skin imperfections,
6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,
210 West 42d St., New York City, N.Y.
Inventor of Facial Appliances, Springs, etc.
Six Parlors; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.

NEAR THE L ROAD.

There can be no pleasanter place to stop in New
York than the well known Sturtevant House, 29th St.
and Broadway. It is centrally located and is conducted
on both the American and European plans at moderate
prices.—*Times Democrat.*



FOR THE THIRD TIME In our his-
tory we
have been
forced to move into larger
quarters to keep up with the
demand from our New York,
Worcester, Springfield,
Providence, Lynn, New
Haven, and two Boston
stores, and our enormous
mail trade. We now occupy
two-thirds of an acre of space
devoted entirely to custom-
work, turning out more gar-
ments than any house in the
United States. You can order
by mail by our system as safely
as if you could call at one of
our stores. To obtain the Fa-
mous Custom-made Ply-
mouth Rock \$3 Pants,
first, send 6 cents, for
20 samples self-measure-
ment blanks, and linen

tape measure, provided you MENTION THIS
PAPER, or if you cannot wait for samples, tell us
about the color preferred, with waist, inside leg,
and hip measures, remit \$3, together with 35 cts.
to cover cost of expressage or postage, and we will
forward the goods prepaid to any address in the U.S.,
guaranteeing safe delivery and entire satisfaction or
money refunded. Remember, also, that we make
to your order, Full Suits, \$13.25, Overcoats, \$12.00, and
that for any cause we refund money at buyer's request
upon return of goods, or make alterations or new
garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all
mail to
11 to 17 Elliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES.—285 Broadway, New
York; Burnside Building, Worcester, Mass.;
Gilmore House, Springfield, Mass.; 60 Mar-
ket St., Lynn, Mass.; Butler's Exchange,
Providence, R. I.; Register Building, New
Haven, Conn.

Any one wishing to learn of our responsibility, may
write the American Express Co., at Boston, (capital
\$20,000,000) or consult the commercial agencies.



BLAIR'S PILLS

Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'**
Sauce, "The Worcestershire." It is known throughout the whole
civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical
Science. \$2.00 per year.

We will send these two together to any
address for \$2.00 per year.

We also receive Subscriptions for the following Medi-
cal Journals. In each case the publishers' price is
given and the price for which we will send that particu-
lar Journal with the ANALYST and the DIGEST:

	PUBLISHER'S PRICE.	WITH DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
(Outside of Indiana only.)		
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	3 50
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

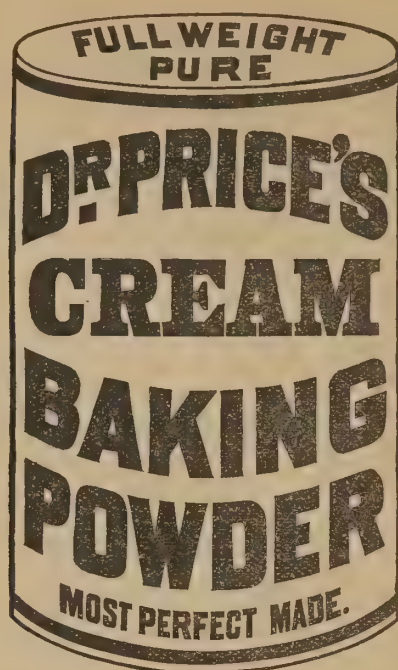
More Journals will be added to this List. Attention is called
to the Special Journals in this List, such as the
*Boston Annals of Gynecology, Detroit Index Medicus, New
York Medizinische Presse, Phila. Archives of Pediatrics.*
Address,

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

Sura Casa ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure
state of the blood. An antidote for MALARIA.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 35
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

See Club Rates for Medical Journals on page 59.

Established in London, 1831.

DEAN'S PATENT ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 6.

NEW YORK, THURSDAY, FEBRUARY 7, 1889.

WHOLE No. 102.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

America.....	65
Cigarette Restrictions.....	65
Color Contrasts.....	64
Domestic Dietetics.....	65
Dust, Dances and Disease.....	64
Editorials.....	61
Pure Food and the Fiftieth Congress; What the Butchers Say; The Tennessee Health Board; A Pro- testing Voice; The Multiplication of Drugs; Ohio Insists upon Good Beef.....	61
Hygiene and Hysterics.....	64
India-Rubber Pavements.....	64
Mineral Wax.....	64
Olive Oil Imitations.....	64
Pigments.....	63
Steel Pens.....	65
What Beef Costs.....	63

PURE FOOD AND THE FIFTIETH CONGRESS.

As we have already had occasion to inform our readers, there is no apparent likelihood that Congress will adopt any decisive measures during the present session in relation to the food adulteration question. This, however, is not because the subject has not been brought to the attention of that body. On the contrary, when the first session of the Fiftieth Congress began there was a great demand for legislation to prevent the sale of adulterated food. A number of bills with this object in view were introduced in both houses and a vast amount of testimony was taken by the Committee on Agriculture. The fact was made known to the House Committee that the trouble with American food products from the foreign standpoint was that at no time in their history are they subject to a disinterested inspection authorized by law, and with the power to expose and punish frauds: that so long as no check is imposed upon the American manufacturer or dealer other than the self-imposed one of interest

and reputation, just so long would it be impossible for this country to gain the hold on the foreign markets which the merits of its products would otherwise command. The House Committee on Agriculture reported two bills to remedy the evils complained of. One reported by Mr. Conger, on July 28, 1888, defined lard, imposed a tax of 2 mills a pound upon compound lard, and provided regulations for its manufacture, sale, importation and exportation similar to those contained in the Oleomargarine act. The Commissioner of Internal Revenue was charged with the execution of this act. The other bill, reported by Mr. Laird, of Nebraska, had a much wider scope, as indicated by its title: "A bill for the establishment of a pure food division in the Department of Agriculture, to provide for the inspection of live stock about to be slaughtered at the slaughter-houses, canning, salting, packing, and rendering establishments, the carcasses or products of which are intended for human consumption in any State or Territory other than where slaughtered, or for exportation to foreign countries, to prohibit the introduction of adulterated or misbranded food or drugs into any State or Territory or the District of Columbia from any other State or Territory or foreign country, and for other purposes." This bill provides for the inspection of live stock before slaughter, and of a microscopic post-mortem examination. It was made unlawful to transport from one State to another carcasses of live stock or food products not bearing a certificate of inspection. The introduction of any compound article of food or compounded drug from one State into another is prohibited unless accompanied by a label on which are stated the names of the ingredients of such article or drug. Provision is also made for a chemical analysis of any article of food or drug at the request of any citizen of the United States. At the commencement of the present session of Congress both these bills were ordered to be reprinted; but no steps have yet been taken looking to the consideration of either of them by the House. The fact that two bills have been reported to accomplish substantially the same result, one to be executed by the Commissioner of Internal Revenue and the other by the Commissioner of Agriculture, indicates unity of opinion as to the end, but a difference of opinion as to the means, which may prevent any action. However, it is hardly probable that there will be any legislation upon this subject at the present session. Even should one or both of these bills be passed by the House of Representatives, the Senate would not have time to consider them during the few remaining weeks of the session. All the work will, therefore, have to be done over again by the next Congress.

WHAT THE BUTCHERS SAY.

Our representative, whose interview with New York butchers not connected with the Chicago beef dressers is reported in another column, also elicited the following information: The wholesale price of Chicago beef in

New York is a little lower than of other beef because Chicago beef is sold for cash only; therefore this difference in price is due only to the usual rule of mercantile cash transactions. There is much more Chicago dressed beef used in New York than of all other beef whatever. This is due to the fact that Chicago sends a better grade of beef to this market, and the better grades of beef, as well as the higher-priced cuts, are more in demand. All the butchers seen by our representative, in addition to buying whole sides of beef, have constantly to buy prime cuts. Since the advent of Chicago dressed beef in the country, the grade and quality of all meat has improved. The public demands better beef, and, having found that the Chicago dressers can supply it, now insist upon it, are willing to pay for it, and local butchers are compelled to supply it. All, without exception, of the butchers seen say positively that they are perfectly willing to take the risk of the healthy quality of all meats sold by them upon the inspection of the dressed meat as they buy it, and that it would be impossible to foist any unhealthy beef, or meat from diseased cattle, upon their buyers. While they are heartily in favor of a United States interstate inspection, they are bitterly opposed to local inspection on the hoof, as it would deprive New York butchers of all New Jersey and Connecticut trade. Philadelphia butchers would lose the New Jersey trade, and Boston butchers would lose the trade from the adjoining States, which in the summer time is the bulk of their business. So it will be seen that the insane crusade against the Chicago beef dressers has led these self-styled advocates of the butchers to propose measures which would seriously injure the retailer without very much affecting the Chicago people, against whom the shaft is aimed. The old adage of biting one's nose off to spite his face is again verified.

THE TENNESSEE HEALTH BOARD.

The beneficent working of State Boards of Health is steadily becoming more generally appreciated by the public in whose behalf these organized efforts are exerted but there seems to be an almost universal reluctance on the part of State legislatures to appropriate funds for their support. Governor Taylor, of Tennessee, in his message to the General Assembly last month, made an earnest appeal on behalf of the Board of Health of that State, from which we quote the following:

"During the two years just ended those dreaded scourges of the human race, small-pox and yellow fever, have threatened the health and lives of the people of Tennessee, but through the prompt and wise action of the State Board of Health the one was successfully circumscribed in the several localities to which it had been imported, and the other was prevented a lodgment in the State, though it prevailed in a malignant and epidemic form just beyond our Southern border in a sister State. The importance of placing at the disposal of this Bureau a contingent fund is a recommendation which I desire to emphasize, as experience has time and again demonstrated that success in combating those epidemic diseases which in the past have swept over our State like terrific cyclones, leaving death and desolation in their tracks, and demoralizing and destroying commerce to a superlative degree, is attained

F. W. DEVOE & CO.,

ESTABLISHED 1852.

PURE MIXED PAINTS

WE desire to call attention of consumers to the fact that we guarantee our ready mixed paints to be made only of pure linseed oil and the most permanent pigments. They are not "Chemical," "Rubber," "Patent," or "Fireproof." We use no secret or patent method in manufacturing them by which benzine and water are made to serve the purpose of pure linseed oil. Sample cards containing 50 desirable shades, sent on application.

Catalogues of our different departments to responsible parties.

**FINE VARNISHES, WOOD FILLERS,
WOOD STAINS.**

Artist's Materials.

Mathematical Instruments.

Cor. Fulton and William Sts., New York.

COFFIN, DEVOE & CO.,

179 RANDOLPH STREET, CHICAGO.

in proportion as such efforts are early, energetically, and intelligently made, and to enable the State Board of Health thus to act, such a fund should be provided for the purpose. I commend to you the several measures which, during your session, the State Board of Health may bring before you; especially would I ask your favorable consideration of the measure providing a system of registration of births, marriages, and deaths in Tennessee. All the more enlightened States and nations of the world possess such statistics, and find them as essential to good government. This is a long-felt want in Tennessee, and as we are fast becoming a very populous State, the necessity for such data is daily becoming more imperative. It became imperatively necessary during the late yellow fever epidemic, which approached our borders with such fearful menace, to use extraordinary quarantine precautions, and such danger not being foreseen and provided for by appropriation, I was forced, in order to protect the people, to order the sum of two thousands dollars placed at the disposal of the State Board of Health, and the success of their efforts was a gratifying demonstration of the wisdom of the act. The expenditure was made at the urgent request of the State Board of Health and by the concurrent advice of the Treasurer and Comptroller. I recommend that your honorable bodies ratify my action and make an appropriation, not only to cover the expenditure but to provide for future contingency, such appropriation to be held in reserve only for such dangerous and imminent necessity as that just experienced."

A PROTESTING VOICE.

In a general way, the question of "what's in a name?" is raised in a derisive spirit, the inference it carries being that character and quality are what are to be depended upon, irrespective of any specific designation for the article or the individual in interest. The question, however, assumes a serious aspect when, after an enterprise has been carried on to successful establishment, its characteristic title is deliberately appropriated by other parties as a designation for an entirely different scheme. Such an invasion of rights is complained of by a publisher in this city, who nine

BURNETT'S
PERFECTLY
Standard PURE Flavoring
HIGHLY
CONCENTRATED
EXTRACTS

years ago established a monthly journal devoted to vocal culture, to which he applied the very suitable title of *The Voice*, and who now finds himself compelled to change the name of his paper because of its having been appropriated by the publishers of a gratuitously circulated political organ, with high moral pretensions in behalf of the so-called prohibition party. As the musical quality of the voice is not best sustained by a dry throat, we take pleasure in calling the attention of our readers to the fact that the organ of voice culture is now known by the title of the *Voice Magazine*, leaving the pirated title to the unrestricted use of the organ of political disintegration.

THE MULTIPLICATION OF DRUGS.

A Baltimore physician in a paper published recently in a local medical journal denounces with lively earnestness the tendency to the multiplication of useless drugs. The writer asserts that in the index to the fifteenth edition of the United States Dispensatory, is a list of about seventeen thousand names of medicinal substances which, allowing for duplication and repetition, he estimates represents about eleven thousand remedies. Those of acknowledged merit in this enormous bulk are aptly compared to Gratiano's reasons, "two grains of wheat hid in two bushels of chaff." The very existence of this vast armory of therapeutic weapons demonstrates the doctor's weakness in his struggle with disease. The conquerors of this world are the men of few weapons; the needless elaboration of arms is the vain resort of the feeble.

OHIO INSISTS UPON GOOD BEEF.

The anti-dressed beef faction have scored a defeat to their credit in Ohio. On January 31st, the State Senate rejected by a conclusive vote the measure known as the Geyser Meat Inspection Bill, and that suicidal suggestion is not likely to be revived in the State. The bill provided for an inspection on foot within the limits of the State of all beef sold in the State—a scheme that would operate unfavorably in every way to the consumer, and also would be ruinous to the retail butcher. The retail dealers will gradually realize the absurdity of such restrictive measures, as well as the impracticability of securing their enactment into laws.

**THE superiority of these Extracts consists in their
PERFECT PURITY AND GREAT STRENGTH.**

There is no subject which should more engross attention than the purity of the preparations which are used in flavoring the various compounds prepared for the human stomach.

They are not only true to their names, but are prepared from fruits of the best quality, and so highly concentrated that a small quantity only need be used.

JOSEPH BURNETT & CO., Boston, Mass.

STEVENSVILLE MILLS.

**IMPEROYAL
VACUUM COOKED
OATS.**

**IMPEROYAL
VACUUM COOKED
WHEAT.**

M. D. STEVENS'

SOLE MANUFACTURER OF

ABSOLUTE PURITY.



HOUSEHOLD NECESSITY.

ONE MINUTE IN PREPARATION.

**IMPEROYAL
VACUUM COOKED
HOMINY.**

**IMPEROYAL
GRIDDLE CAKE
FLOUR.**

Recommended by Eminent Physicians and Chemists.

Adapted to all kinds of Pastry, Bread, Biscuit, Griddle Cakes, etc., and its absolute purity and freedom from Aluen, Terra Alba or any injurious ingredient, makes it a necessity for every household. No lady can afford to be without it. Sold by best Grocers.

M. D. STEVENS,

Room 18, Mercantile Exchange,
Cor. Hudson & Harrison Sts., NEW YORK.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

PIGMENTS.

THE SOURCES FROM WHICH PAINTERS' COLORS ARE DERIVED.

The following embodies some interesting information regarding the sources from which the colors one finds in a paint-box are derived. Every quarter of the globe is ransacked for the material—animal, vegetable and mineral—employed in their manufacture:

From the cochineal insects are obtained the gorgeous carmine, as well as the crimson, scarlet, carmine and purple lakes.

Sepia is the inky fluid discharged by the cuttle fish to render the water opaque for its concealment when attacked.

Indian yellow is from the camel.

Ivory black and bone black are made out of ivory chips.

The exquisite Prussian blue is got by fusing horses' hoofs and other refuse animal matter with impure potassium carbonate. It was discovered by an accident.

In the vegetable kingdom are included the lakes, derived from roots, barks and gums.

Blue-black is from charcoal of the vine stalk.

Lampblack is soot from certain resinous substances.

From the madder plant, which grows in Hindostan, is manufactured Turkey red.

Gamboge comes from the yellow sap of a tree, which the natives of Siam catch in cocoanut shells.

Raw sienna is the natural earth from the neighborhood of Sienna, Italy.

Raw umber is an earth from Umbria, and is also burned.

To these vegetable pigments may probably be added India ink, which is said to be made from burnt camphor. The Chinese, who alone produce it, will not reveal the secret of its composition.

Mastic—the base of the varnish so called—is from the gum of the mastic tree, indigenous to the Grecian archipelago.

Bistree is the soot of wood ashes.

Of real ultramarine but little is found in the market. It is obtained from the precious lapis lazuli, and commands a fabulous price.

Chinese white is zinc, scarlet is iodine of mercury, and cinnabar, or native vermilion, is from quicksilver ore.—*Iowa State Register.*

HORSE MEAT.—In Manchester, England, there are a hundred places where horse meat is sold, and it is eagerly purchased by the poorer classes, it being 10 or 11 cents per pound, while beef is 25 cents.

WHAT BEEF COSTS.

THE "AMERICAN ANALYST'S" STATEMENTS FULLY CONFIRMED BY THE BUTCHERS.

The alleged organs of the butchers have asserted that the table showing the actual retail prices at which meat is sold, as published in the *AMERICAN ANALYST*, January 10th, 24th and 31st, was a misrepresentation and inspired by interested motives. As these sheets confined themselves to assertions merely, we did not deem the matter deserving of notice, and as we felt that the only journal which really represented the respectable butchers was, in its efforts on behalf of the consumer, the *AMERICAN ANALYST*, we were content to let our figures remain, especially as the large demand for the numbers containing that table convinced us that our labors for truth and right were appreciated by the very interest which these sheets, who attacked us, falsely claimed to represent. Since then, however, our esteemed cotemporary, the *Burlington Hawkeye*, has been misled into an attack upon our statements, and we feel in duty bound to show to that journal that it is in error, assured that it will hasten to correct its position. The *Hawkeye* says that our article was inspired by the Chicago beef-dressers. As the *AMERICAN ANALYST* is nobody's organ, but is edited and managed entirely in the interest of those on whom it depends for its support, and those are the subscribers to the paper, among whom are more retail and wholesale butchers than any other journal has, whether called a butcher's organ or not, this assertion falls to the ground. Again, we are charged with grossly exaggerating the profits of the retailers. We said nothing about net profits. We only gave the facts and figures as we found them in New York, after careful enquiry had been made. We took no account of the expense of conducting a retail butcher's store, and only compared wholesale with retail prices of meat as found in the New York market. We did not claim that these prices applied to Burlington, Iowa, or any other point outside of the metropolis, and we presume that the *Hawkeye's* retail prices are correct, and when compared with wholesale prices at Burlington will be found to bear the same relative proportion as at New York. So after all our mathematics are admittedly correct. The *Hawkeye* finally gives it as its opinion that an interest of the magnitude of the beef trade should not be centralized at Chicago—but that has nothing to do with the question

of prices, being merely a question of geographical and commercial jealousy. On the subject of prices, however, wishing to reassure ourselves, we sent a representative of the *AMERICAN ANALYST* to inquire of the butchers who were in no way connected with the Chicago meat dressers as to the correctness of the quotations given by us. Such firms as William Ottmann & Co., and J. P. Disbrow's Sons, of Fulton Market; Beinecke & Co., of 196 Fulton street, Solomon Sayles, of Sixth avenue, and several others were seen on the subject, and the information obtained proved conclusively that the retail prices as given by us were correct.

To show this better, we will here recapitulate the retail prices as found by our representative, and also the wholesale prices of different parts of a carcass. The wholesale prices are as follows:

Loin, including kidney.....	10 cts.
Round, " flank.....	6 "
Chuck, " shank and neck.....	4½ "
Plate.....	4 "
Rib.....	10 "

which would give for the whole carcass:

159 pounds loin,	
34 " kidney,	
74 " rib,	
267 pounds at 10c.....	\$26.70
154 " round,	
18 " flank,	
172 " at 6c.....	10.32
138 " chuck,	
46 " shank,	
7 " neck,	
191 " at 4½c.....	8.59
120 " plate at 4c.....	4.80

Or a total of.....\$50.41

which is \$2.09 less than the wholesale prices given in our previous table; but this is principally due to a slight falling off in price just at this time.

As to the retail prices, the retail list of Messrs. William Ottmann & Co., now before us, shows the following prices as compared with those we printed before. Where Messrs. Ottmann's prices are not given, it is because they do not publish quotations on the poorer grades of meat.

THE COST OF BEEF.						
One Steer, weight 750 lbs.—Cut as below.						
PRODUCT.	LBS.	CUT PRODUCT.	LBS.	PRICE PER LB.	AMOUNT.	OTTMANN'S PRICES PER LB.
				Cents.		Cents.
Loins.....	159	Porterhouse Steak.....	55	23½	\$12.93	26
		Sirloin Steak.....	85	21	17.85	20
		Suet.....	19	4	76	..
		Round Steak.....	74	17	12.58	20
2 Rounds.....	154	Boiling Piece.....	16	7	1.12	..
		Roast Rump.....	39	15	5.85	15
		Soup Shank.....	25	5	1.25	..
2 Chucks.....	138	Shoulder Steak.....	74	11	8.14	..
		Boiling Pieces.....	64	7	4.48	..
2 Ribs.....	74	Roasts.....	74	19	14.06	20
2 Plates.....	120	For Salting.....	120	7	8.40	10
2 Shanks.....	46	Boiling Pieces.....	21	7	1.47	..
		Soup Bones.....	25	5	1.25	..
2 Flanks.....	18	For Salting.....	13	7	91	..
2 Kidneys.....	34	Flank Steak.....	5	11	55	..
2 Necks.....	7	Kidneys and Suet.....	31	4	1.24	..
		Necks and Bones.....	7	4	28	..
		Shrinkage in Cutting.....	3	..	....	..
Total.....	750 lbs.		750 lbs.		\$93.12	

The aggregate shows that we had actually understated the retail price of a carcass of beef by \$7.08. So much for the truth and reliability of our statements. We desire only to confess ourselves to the truth and this always prevails.

HYGIENE AND HYSTERICIS.

DOES SOLICITUDE FOR HEALTH INDUCE NERVOUS OVER-ANXIETY.

There is some discussion of the question: Does the great attention paid to health in these days produce an anxiety about bodily ailments which is a disease in itself? The question at first glance may seem an absurd one, yet, looking upon one side of the proposition, some cases can be presented which, standing alone, might indicate that too great a regard for health had a tendency to encourage or aggravate hypochondriasis. We have always had the hysterical and always will, but it should not be assumed that a reasonable attention to health should stimulate the growth of morbid fancies. With our State departments of health and local boards these matters are placed under intelligent direction, and extravagant notions and intemperate care are not so extensively indulged as formerly. There is a general diffusion of hygienic knowledge proceeding from professional sources which tends rather to decrease the number of neurotic and hysterical than to multiply them. There are no statistics bearing directly on the subject, but those furnished from the health departments show that the promotion of physical well-being is the result of the increased attention to health now prevailing. It will be further observed that the knowledge emanating from our boards of health is sanitary, and must not be confounded with the popular sanatory literature often disseminated to the injury of physical welfare, from which results the prevalence of self-drugging and fancied ills that seemingly afflict humanity. Besides all this, high medical authorities concur in the opinion that there is a general improvement in the public health.—*Sanitary News*.

DUST, DANCES AND DISEASE.

A WORD OF CAUTION REGARDING BALLROOM ATMOSPHERE.

In this festive season dangers are encountered with a light heart. Words of prudent caution are apt to be regarded as indications of senility which can be laughed to scorn by the more youthful and robust. The dangers of sudden chills when heated are rashly braved by those who have not learned wisdom from sad experience, until too many families have to mourn the loss of one whose initial troubles they date back to "exposure on leaving a dance." A correspondent seasonably draws our attention to another risk which cannot be avoided by the most prudent until it has been generally recognized, viz., the probably deleterious action of the irritant particles of glass flux, known in commerce as "glittering frost," "frost powder," etc. These particles were formerly affixed to artificial flowers and fancy dresses by some adhesive material, but they are now employed extensively by merely being dusted on before attending places of amusement, and are hence readily shaken off and diffused through the atmosphere by any brisk movements. Our correspondent has experienced irritation of the throat, while he has known other persons who were affected in the eyes, or who suffered from irritation of the skin of the face and hands, doubtless to be traced to this cause. It is quite conceivable that the trouble may extend further. It is well known that operatives working in an atmosphere charged with irritant spicules suffer from various forms of chronic pulmonary disease. In his admirable report upon the mortality in England and Wales during the ten years 1871-80, Dr. William Ogle devoted considerable space to the consideration of the mortality from phthisis and diseases of the respiratory organs in what he terms "dust-inhaling occupations." His figures bear a heavy record against the dust of stone and the dust of metal. Hitherto the dust of glass has escaped observation; indeed, the circumstances under which it is likely to be inhaled render it probable that subsequent bronchial affections are more likely to be attributed to some other cause; still it can scarcely be supposed that these insoluble sharp particles can be inhaled with impunity.—*London Lancet*.

COLOR CONTRASTS.

A SHORT ART LESSON FROM NATURE'S SCHOOL.

Nature is very sparing of showy contrasts of warm and cold colors. Red and blue are very rare, and of yellow and blue the cases are but few, and black and blue are found in lepidoptera more often than white and blue are seen in our flora or fauna. It is not uncommon for one of two strong colors to be overcast with a tinge of its fellow, or for both of them to be reconciled by a common touch of black or of some third color, or for one of them to be lightened by a dash of white, while the other is lowered by as much black, and so red, off-hued with black—russet and green upbrightened with white—often meet in the autumn in dead and dying patches of fading leaves. It may be shown, I believe, by the refractions of light in crystallized gypsum that brown is the complementary color to lavender-gray; and how true to herself is nature we may go forth and see, in the fall of year, in the dead and curled leaves of the mugwort, or meadow sweet, which are beautiful even in their death, with one side brown and the other the brown-matching gray; and, if brambles be cut in the leaf-green season, their two surfaces soon wither into the harmony of gray and brown. And what use are we to make of these hues of nature? They are warrants for a gray mantle, under locks of brown hair, or a brown bonnet of trimmings, or a gray room wall with brown furniture; and if, in a hot summer's day, I see the dark leaf-shades playing on the gray bark of a young beech, I can boldly lay darkish leaf-shades on a wall of the beech bark's hue; or if, after the winter rains, I find a barkless pole in railings, tinted with the palest blue-gray, and on breaking off a splinter of it I find its inner wood of its true color of pale brown-yellow, why should I not take the inner tint for my wall and the outer one for the skirting? Or, if I pick up a piece of lichen of dull green on one side and dull gray on the other, why should I not bind my book in one color and lay on it a lettering piece of the other? Nature is the best school of art, and of schools of art among men those are best that are nature's best interpreters.

OLIVE OIL IMITATIONS.

A BILL IN THE NEW YORK LEGISLATURE TO PREVENT THEM.

The following act to "prohibit deception in the manufacture, importation or sale of oil" was introduced in the State Senate on Jan. 14th.

Section 1. Whoever, by himself or by his agents, manufactures, imports, sells, exposes for sale, or has in his possession with intent to sell, any oil substance or compound made in imitation or semblance of olive oil, or as a substitute for olive oil, and not exclusively and wholly pure olive oil, or containing any fats, oils or grease or other foreign substance, unless the words "imitation olive oil," or "adulterated olive oil," are stamped, labeled or marked in printed letters of plain roman type, not less than one inch in length, so that said words can not be easily defaced, upon the top and side of every cask, can, bottle, package or other receptacle containing said article, substance or compound.

Sec. 2. Whoever, by himself or by his agents, violate the provisions of this act, in whole or in part, shall be guilty of a misdemeanor, and shall be punished for each and every separate offense by a fine of not less than one hundred dollars nor more than one thousand dollars, or by imprisonment in the county jail of the county wherein said person or persons shall be tried, for not less than one month nor more than one year, or by both, such fine and imprisonment in the discretion of the court pronouncing the sentence, one half of which fine shall be paid to the person or persons furnishing the evidence of the violation of the provisions of this act, and the residue shall be applied to the public school fund of the said county.

Sec. 3. Courts of general sessions of the peace shall have jurisdiction of all cases arising under this act, and their jurisdiction is hereby extended so as to enable them to enforce the penalty hereby imposed.

Sec. 4. This act shall take effect immediately.

MINERAL WAX.

DISCOVERY OF A VALUABLE MINE OF OZOKERITE IN UTAH.

Ozokerite, or ozocerite, is a mineral wax not found hitherto in any considerable quantities except in Moldavia, and in Galicia, Austria. Two or three years ago, however, Mr. J. Wallace, of New York, after long search, discovered a mine of the wax in paying quantities in Utah, on the line of the Denver and Rio Grande Railroad, 114 miles east of Salt Lake City. About 150 acres of the mine have been exploited thus far, and in January, 1888, the production of ozokerite in paying quantities from this mine began, and it is expected that the production will soon amount to 1,500 tons per year. The consumption in this country of ozokerite, and its by-products, for all purposes to which it has been thus far applied, has amounted to about 500 tons per year. Its main uses have been for the adulteration of beeswax and in the construction of wax figures; it is used in connection with paraffine in the manufacture of the best grades of candles; it is employed very largely also in the manufacture of wax paper, its value for this purpose arising from the fact of its resistance to all materials containing acids; a great part of the body and polish in many kinds of shoe blacking are the result of a liberal use of ozokerite in its manufacture. But the chief use to which this wax seems to be destined is as a waterproof insulator for magnetic wires. The experiments thus far made have seemed to show that for this purpose ozokerite is preferable, all things considered, to any other substance hitherto employed. It is now in use extensively by eight of the electrical companies of this country, and if it can be produced as cheaply and in as large quantities as Mr. Wallace now anticipates, its use as an insulator is probably destined to very great extension at no distant day.

INDIA-RUBBER PAVEMENTS.

WOULD NOT THEIR NOISELESSNESS BE A NEW SOURCE OF DANGER?

The authorities of the city of Basle, says the *India-rubber Journal*, intend repaving their principal thoroughfares, and are now considering the material best suited for the purpose. In one street a trial was given to wood pavement, but somehow it does not give satisfaction. The decision, therefore, turns upon asphalt or india-rubber. The latter was invented by the German engineer, Busse, in Linden, near Hanover, and was first practically used about fifteen months ago for paving the roadway over the Goethe Bridge, in Hanover, which required about one thousand square metres of material. This first experiment proved so successful that during the present year another street in Hanover was paved with india-rubber, to the extent of fifteen hundred square metres. Berlin is already considering the advisability of availing itself of the same pavement, and has given it a fair trial by laying it down over a considerable distance near the Lutzow Bank, which example is being followed by Hamburg. The india-rubber pavement is said to combine great elasticity with the hardness of stone, to be completely noiseless, and to suffer neither from cold nor hot weather. Moreover, it is not slippery, like asphalt, and is more durable.

Subscriptions \$1 per year. Now is the time to subscribe.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

February.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose.

FISH.—Bass, cod, crabs, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

QUICK BEEF SOUP.—One-half onion, three or four stalks of celery, one sliced carrot, salt, pepper, mace, two tablespoons Liebig's extract of beef, 2 quarts water. Boil vegetables and seasonings in the water for half an hour, strain and add the extract. Stir well and serve.

TURBOT PIE.—Take the remains of cold turbot, free the white flesh from skin and bone, tear it into flakes and season with pepper, salt and powdered mace. Spread it at the bottom of a thickly-buttered baking dish, and pour over it any appropriate sauce, or melted butter, cover with a thick layer of potato paste, bake, and salamander.

ZEST FOR GRAVIES.—Powdered thyme, sage, cayenne pepper, pimento, black pepper, coriander seeds, and mace, in fine powder equal parts. Thoroughly mix these. There is also a zest compound of the peels of oranges, lemons, or citrons cut from the top to the bottom in small slips as thin as possible. Any ingredients possessing penetrating and pungent qualities form zests.

RISSOLES.—Boil and mash any kind of vegetables together, add mashed potatoes, bread crumbs and any seasoning desired, then bind with an egg. Shape, and dip in egg and bread crumbs, and fry till the rissoles are light brown in color.

SWEET BREAD SALAD.—Boil the sweetbreads till tender, throw them into cold water for a few moments. Dry them, cut them into small pieces. Have ready some crisp celery, about as much as the sweetbreads, cut into small pieces. Add this to the sweetbread, and over all your mayonnaise dressing, flavored slightly with a dash of onion.

PEARL CAKE.—Whites of three eggs, one teacup of white sugar, one teacup of flour, one teacup of corn flour, half a teacup of butter, half a teacup of milk, two spoonfuls of Horsford's baking powder; flavor with lemon. Beat the butter to a cream, add the sugar and other ingredients, and lastly the eggs (whites only), well beaten. Bake at once in a moderate oven.

AN EXCELLENT CAKE.—One pound of flour, one pound of butter, one and a quarter pounds of flour, ten eggs, one-half gill of sherry wine, one-half gill of rose water, one grated nutmeg, one teaspoon of mixed ground cinnamon and cloves. Beat the butter and sugar to a very light cream, then add the wine and rose water. Whisk the eggs until thick, add and beat them into the butter and sugar by degrees; then add and stir in the flour gradually, and then the spices. Beat all well together for ten minutes, and bake in square pans lined with buttered paper, and in a moderate oven. When done sieve powdered sugar over the top.

AMERICA.

DID VESPUCCIUS RECEIVE OR CONFER THE NAME OF THE
WESTERN WORLD?

Amerigo Vespucci, the Florentine navigator, has usually been credited with conferring his name upon the Western World—a circumstance which has caused no end of regret to many historians, who argue that it should have been called Columbia in honor of the illustrious discoverer. The researches of the author, Thomas de St. Bris, in his "Discovery of the Origin of the Name of America," seem to show that the name America was derived from the native name of Central America and the northern portions of South America, which, it is well known, were among the very first localities visited and colonized by the Spaniards. The name was variously written by early navigators, who adapted what seemed to each the nearest imitation of the native word. Thus we have an Ama-America. To this was frequently added the race, Ameroco, Maraca, Moraca, and finally native word "pana," which, according to Sir Walter Raleigh, is the equivalent of country. It seems strange that these facts should have remained so long in obscurity, although it is perhaps not less remarkable than that the Norse discoveries during the tenth century should only recently begin to attract attention. These names actually occur on the maps and charts of the Spaniards, and the author has given a reproduction of one of them, showing the geographical knowledge available during the early part of the fifteenth century. On the whole, this pamphlet, the substance of which was given by the author before the American Geographical Society, contains considerable interesting information relating to the earlier history of the Americans.

CIGARETTE RESTRICTIONS.

A BILL FOR THE BENEFIT OF YOUTH.

A bill was introduced in the New York Senate last week which commends itself strongly to the good sense of the community, on behalf of the welfare of the rising generation. It provides that no person under fifteen years of age shall smoke a cigarette or a cigar in any street or other public place in this State under a penalty of ten dollars for each offence. Such a bill ought to be rapidly expedited in its progress, and be very vigorously enforced when it becomes a law, as we hope it will become.

STEEL PENS.

THE PROCESS OF THEIR MANUFACTURE.

About a million gross of steel pens are worn out every year in the United States. What becomes of them? Twenty years ago most of the steel pens used in the country were imported. Now comparatively few are imported, and there are several factories in this country in which they are made in large quantities. One factory is in Connecticut, another in Pennsylvania, and a large one in Camden, N. J. The manufacturers say that the industry has been fostered by the protective tariff, and were it to be taken off, the country would be flooded with cheap steel pens of inferior quality at lower prices than ours. At present the importation of foreign pens is mainly confined to high priced articles. It was at first doubted that steel pens could be made in this country, but it was soon learned that the requisite skilled labor could be obtained for high wages, and the success of the pioneers led one manufacturer after another into the business, until now the field is pretty well occupied. Most of the work on the pens is done with the aid of very nice machinery worked by women and girls. The steel used is imported, because it is believed that the quality is more uniform than the American

steel. This uniformity of quality is necessary, because of the very delicate tempering required in the manufacture of the pens. That mysterious quality of steel which gives different colors requires expert manipulation on the part of the workman who does the tempering. He must know the nature of the material with which he works, and with that knowledge must exercise celerity and skill which seizes upon the proper instant to fasten the steel at a heat which insures the requisite quality. First, the steel is rolled into big sheets. This is cut into strips about three inches wide. These strips are annealed—that is, they are heated to a red heat and permitted to cool gradually so that the brittleness is all removed and the steel is soft enough to be worked easily. Then the strips are again rolled to the required thickness, or rather, run. It is the quick eye for color and the quick hand to fasten it that constitutes the skill to determine the temper of steel. When the steel is heated for tempering it is bright. The first color that appears is a straw color. This changes rapidly to a blue. The elasticity of the metal varies with the color, and is arrested at any point by instant plunging in cold water. The process of slitting, polishing, pointing and finishing the pens are operations requiring dexterity, but by long practice the workmen become very expert. There have been but few changes of late years, and the process of manufacture is much the same as it was twenty years ago, and the prices are rather uniform, ranging from 25c. to \$4 per gross, according to the quality of finish. The boxes sold almost universally contain a gross.

EDIBLE BIRDS' NESTS.—J. B. Steere, in the *American Naturalist*, adds considerable to our knowledge of edible birds' nests—regarded as a rare delicacy in Chinese cookery—though he still evidently sticks to the old notion that the gelatine of which the nests are in part or wholly made is a fluid secreted from the salivary glands of the swifts that make the nests, which liquid hardens on exposure to the air. As far as our own chimney swifts are concerned, it has been proved that the gum with which the twigs are fastened together is of a vegetable and not of an animal character, and that in the case brought to the notice of the Academy of Natural Sciences of Philadelphia, where the matter was investigated, the gum was found to belong to the cherry tree. In the case of edible birds' nests, the "gum" has been proved to be a seaweed, brought by the bird, often from long distances.

NEW THEORY.—The theory is held by Professor Mendeleef that petroleum is produced by water, which penetrates the earth's crust and comes in contact with glowing carbides of metal, especially those of iron. The water is decomposed into its constituent gases, the oxygen uniting with iron, while the hydrogen takes up the carbon, and ascends to a higher region, where part of it is condensed into mineral oil, and part remains as natural gas, to escape wherever and whenever it can find an outlet. If this assumption is correct, and a sufficient store of metallic carbides is contained in the earth's interior, petroleum may continue to be formed almost indefinitely, and yield a supply of fuel long after coal is exhausted. Professor Mendeleef supports his views by producing artificial petroleum in a manner similar to that by which he believes the natural product is made.

UTILIZATION OF REFUSE.—Dr. Lawson, the Curator of the Nilgri Gardens, has been making some experiments on the applicability of refuse cocoanut fibre to the automatic closing of shot holes, following in general the plan indicated by M. de la Barriere in the *Revue des Deux Mondes*, in 1886. A quantity of the powdered refuse is taken before it is quite dry, and subjected to a heavy pressure under which it forms a sort of brittle millboard. In his experiments Dr. Lawson took a plate of this substance eighteen inches square and three-fourths of an inch thick, and, using it as one side of a water-tight box, fired three shots with a bullet one inch in diameter through it without a single drop of water issuing through the bullet holes, the material closing up automatically behind the bullet. In another case a bullet one inch in diameter was fired through. This was at first followed by a strong jet of water, but in a few seconds the flow diminished in volume, and in the course of one minute had completely stopped.

WOOL A PREVENTIVE OF SORE THROATS.—According to Mr. H. V. Knaggs (*Archives of Pediatrics*), a few threads of Berlin wool placed around the neck and worn continuously are an efficient preventive against these uncommoding complaints, which many persons are so prone to catch on exposure to cold. From ten to twenty threads are enough for the purpose. They should only be removed for making ablutions, and should be left off gradually by discarding daily one thread at a time. The remedy probably acts by keeping up a belt of skin action, thus acting mildly and continuously as a slight counter-irritant.

ANCIENT TIMBER.—Probably the oldest timber in the world, which has been subjected to the use of man, is that found in the ancient temple of Egypt, in connection with stonework, which is known to be at least four thousand years old. This, the only wood used in the construction of the temple, is in the form of ties, holding the end of one stone to another. When two blocks were laid in place an excavation about an inch deep was made in each block, in which a tieshaped like an hourglass was driven. It is, therefore, very difficult to force any stone from its position. The ties appear to have been of the timarisk or Shittim wood, of which the ark was constructed.

SPONTANEOUS COMBUSTION.—Electric heat indicators consisting of thermometers incased and protected by iron tubes, provided with platinum wires and connected to a system of electric bells and indicators on deck, are the latest invention for preventing spontaneous combustion among ship cargoes. Should any undue heat arise in any part of the cargo, the mercury in the thermometers will rise, make contact with the platinum wire, and give an instantaneous alarm on deck, indicating at the same time the exact spot where the heat exists.

A NEW PREVENTION.—An electrician has invented a material which he calls alterion, for the prevention of corrosion in boilers. The interior is coated with this, and currents of electricity are passed through the boiler, and from time to time reversed. The formation of the scale is prevented by a layer of hydrogen gas, which is deposited upon the inner surface of the boiler. The reversed currents reform the hydrogen into pure water, a thin layer of pure water being thus kept all around the boiler.

DR. AYER'S PREPARATIONS.

Pharmaceutical preparations of all kinds should be judged by the character and reputation of the manufacturer who makes them. Every purchaser ought to have a positive assurance that he obtain just what he pays for and that if he buys such a preparation he has the right to demand a guaranty that the article delivered to him is of the precise quality, quantity, and strength which he has been led to believe it to be. Among pharmaceutical preparations, we include all standard medicines made from a known formula and offered either to the trade or public as a remedy for certain indicated disease. The good character and reputation of the manufacturers, as these words are generally understood, are not the only safeguards; but the purchaser, also, should know that they have the necessary technical, scientific, mechanical, and practical knowledge and experience to buy the required materials and compound them properly; that they have sufficient capital to buy these materials whenever an unusually good quality is offered, because drugs of good quality are not always in the market—and so to fit up their manufactory as to have the latest and most approved machinery, and also to be able to purchase in such large quantities as will invariably cause those having such materials to make them the first offer and give them the pick. Such manufacturers must also employ the very highest talent attainable to do the manual work in the preparation of their goods. In turn, these qualifications and facilities will enable them to do a very large business and thus the *pro rata* expense of many branches of the business will be lessened, which gives that much more to expend on making and maintaining the best quality only. We have thus set a very high standard for the manufacturer of such preparations and yet we can easily fill it. We refer now to the celebrated firm of J. C. Ayer & Co. of Lowell, Mass., a firm now established more than forty years; originally started by a man of large experience, it has been steadily carried on with the sole object of making only the very best. Having an enormous capital at its disposal, it is probably the

heaviest purchaser of sarsaparilla in the world, the kind used by the company being the Honduras root, which is the richest in medicinal properties.

All the medicines made by this house are worked up by skilled men, after the most approved methods. Each preparation is neatly bottled or boxed, labelled, cased and marked. A large demand existing for these goods the world over, the supply is constantly renewed, so that, in one word, whether you buy Ayer's Sarsaparilla, Ayer's Cherry Pectoral, Ayer's Pills, Ayer's Ague Cure, or Ayer's Hair Vigor the buyer is always sure of getting just what he has been led to expect from the advertisements of the house. These preparations are sold at retail cheaper than any druggist could compound them of the same quality, and are obtainable everywhere.

LIFE NO JOKE.—The man who amounts to anything in this world, and has no burdens to carry, is an exceedingly rare specimen. The goal is reached by the fellows who keep up good heart and never lie down under their load.

OLIVE SEED PEPPER.—The microscopist of the Department of Agriculture, Professor Thomas Taylor, has discovered that pepper is adulterated often as much as 50 per cent. with the seed or stone of the olive, which are obtained in large quantities from the olive oil factories.

BUSINESS NOTES.

A FINE OFFER.

The advertisement of the *Household Monthly* which appears in another column, is a very attractive one and tells its own story in a plain unvarnished way. When people can get so good a paper as this, together with a youth's paper, a manual of fancy work, and Webster's Handy Dictionary besides, all for a single dollar, the publishers ought to be inundated with demands of the great reading public. The *Household Monthly* is now in its seventh volume.

LOOK OUT for Imitations and Substitutes OF *Horsford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

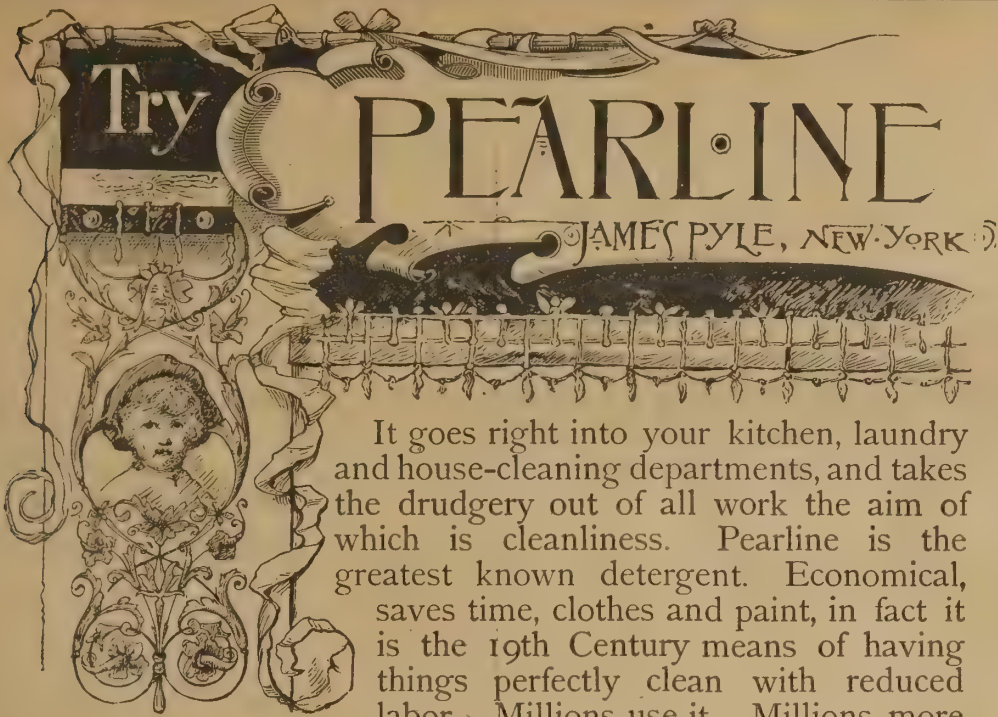
Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

Try **PEARLINE**
JAMES PYLE, NEW YORK



It goes right into your kitchen, laundry and house-cleaning departments, and takes the drudgery out of all work the aim of which is cleanliness. Pearline is the greatest known detergent. Economical, saves time, clothes and paint, in fact it is the 19th Century means of having things perfectly clean with reduced labor. Millions use it. Millions more

will. Beware of peddled imitations.

JAMES PYLE, New York.

FACIAL BLEMISHES.

The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Pitting, etc., and their treatment. Send 10 cts. for book of 128 pages, treating on 25 skin imperfections, 6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,

210 West 42d St., New York City, N.Y.

Inventor of Facial Appliances, Springs, etc. Six Parlor; three for Ladies. Established 1870.



Use Woodbury's Facial Soap. By Mail, 50 cts.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills. At all druggists, and 224 William St., New York.

CALIFORNIA

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

SCOTT'S EMULSION

OF PURE COD LIVER OIL WITH

HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects.

Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and receives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—unequalled by any single or combined remedy in existence. The rapidity with which delicate children fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

Robert Gordon's

TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO,—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,

In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

ESTABLISHED 1857.

J. H. CUTTER,

OLD

BOURBON AND RYE WHISKIES.

We are the Sole Owners and Proprietors of this Celebrated Brand of Whiskey.

C. P. MOORMAN & CO.

LOUISVILLE, KY.

We Guarantee the Superior Quality and Absolute Purity of every Barrel of Whiskey sold by us under this Brand.

STEWART CERAMIC CO.,

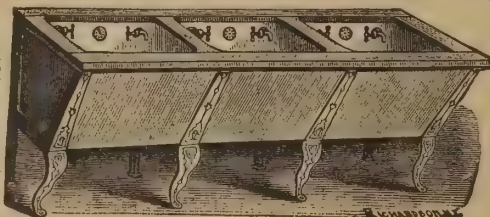
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top, SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

THE TORSION

Braided Wire Mattress.

At all times a thoroughly ventilated and perfectly clean mattress, it cannot absorb odors, or retain exhalations or disease germs.

D. HAYES AGNEW, M. D., Prof. of Surgery, University of Pennsylvania, says:

"The Torsion Braided Wire Pillow and Mattress I regard as superior to anything of the kind now in use; well suited for either private or hospital use."

Prof. WM. H. PANCOAST, late Professor of Anatomy, etc., in Jefferson Medical College, now Professor of Anatomy and Clinical Surgery in the Medico-Chirurgical College of Philadelphia Hospital Surgeons, says:

"I have used in my surgical practice your Braided Wire, in the form of mattresses, pillows for the head and body, and short pillows for the arm and leg when injured. I find them most admirable, cool and light, yet affording perfect and elastic support."

I have saved a patient from bed sores by the use of the Braided Wire mattress."

WM. H. FORD, President Board of Health, Philadelphia, says:

"I have used the Torsion Braided Wire Mattress with great satisfaction, it is light and therefore easily handled; it is elastic and very comfortable. The case can be easily removed to afford a complete airing, a feature of great importance from a health point of view. It is an invention of great usefulness."

For descriptive circular and price list, send to

The Torsion Braided Wire Upholstering Company,

1017 CHESTNUT ST., PHILA.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use night or day, when traveling or at home.

MALTED MILK does away with the danger of using sour or impure milk.

MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.

Ask your physician his opinion of MALTED MILK, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and family use, ... \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

Subscriptions \$1 per year. Now is the time to subscribe.

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, JR.

ESTABLISHED 1793.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York. Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

**"THE QUEEN OF
AMERICAN PAPERS."****THE
HOUSEHOLD
MONTHLY****MARCIA L. WATSON, Editor.**

Our Contributors are Douglas Frazer, E. Raum Boyle, M.D., Verend Minster, Mrs. Alice M. Crockett, Edwin Ruston, L. C. O. Houghton, Mrs. F. M. Howard, Eleanor W. F. Bates, Ada Thorpe Loftus, Harriet Tremaine Terry, Julie Adams Powell, and others.

DECORATIVE OIL PAINTING. by Mrs. ALICE M. CROCKETT, is worth many times the subscription price, to those interested in this.

FLORICULTURE.—Floral Talks, by EDWIN RUSTON, delight the amateur florist, and all who love flowers.

MEDICAL TALKS. by Dr. R. RAUM BOYLE, invaluable to all who will take good advice for the preservation of their health.

HOUSEHOLD HINTS is a collection of tried recipes each month. A series of articles "How to Entertain," "Five O'Clock Teas," "The Art of Housework," "Hints by the Way," etc., etc., are now running, by EUNICE, DOROTHY W., and ELEANOR W. F. BATES.

CHILDREN.—Charming illustrated juvenile stories and poems every issue.

CORRESPONDENCE.—A page of letters from the "Household Sisters" brightens every issue, and the EXCHANGE COLUMNS are always of interest.

STORIES.—Each issue contains one complete illustrated story, poems, etc.

The Actual average bona fide circulation of the H. M. in 1888 was 158,916 Copies per month.

HOUSEHOLD LEAVES.

A Manual of Knitting and Crocheting. Contains more practical articles than any other book. Each pattern has been tested by an expert and found to be correct.

PARTIAL CONTENTS:—Directions for making Baby's Boots, Hoods, Lady's Undervests, Baby's Sack, Quilts, Purses, Lamp Mats, Ties, Slippers, Toboggan Cap, Infant's Shirt, Shoulder Cape, Skirts, Scrap Bag, Afghans, Lady's Under Jacket, Child's Leggings and Drawers, Gentlemen's Gloves, Mitts, Baby's Blanket, and an almost endless variety of elegant patterns of Edgings, Insertions, etc. 64 large pages elegantly gotten up.

FANCY WORK.—This department is celebrated for its original designs, and reliable directions. The latest Parisian and London, as well as American novelties appear regularly. 8 to 10 correct illustrations add interest to this department.

FASHIONS.—The latest Fashions appear each month, with an average of twenty beautiful engravings. Our Fashion Department is not excelled by any American publication.

ART NEEDLEWORK.—A series of fine articles on "High Art Embroidery," by L. C. O. HOUGHTON, profusely illustrated, is a valuable feature.

SUNSHINE FOR YOUTH.

The best juvenile periodical on this continent. **Sunshine for Youth**, and for those of all ages whose hearts are not withered, is a 16 page, 64 column monthly publication. The best writers for youth in the world are its regular contributors. Every number splendidly illustrated. Subscription price, 75 cents per year.

The Prime Object of this advertisement is to place **THE HOUSEHOLD MONTHLY** in your home the coming year, if you don't know how good it is we want to hire you to try it. Seventh volume. See our great dollar offer below.

WEBSTER'S HANDY DICTIONARY.**"A Library in itself."**

Webster's is the acknowledged standard of the English Language. This edition supplies the orthography, pronunciation, meaning and etymology of all English words which are likely to be encountered by the general reader or student. It is copiously illustrated, contains also a chapter of Foreign Words and Phrases. It is of convenient size, not so cumbersome and bulky as the "Unabridged," just right for daily use.

This Dictionary must not be confounded with the cheap Dollar Dictionaries with which the country is flooded. This is **WEBSTER'S, THE STANDARD.**

OUR GREAT OFFERS

For 25 Cts. we will send *The Household Monthly* 6 MOS.; for 50 CTS. will send it 1 YR.

BUT as an EXTRA INDUCEMENT, for \$1.00

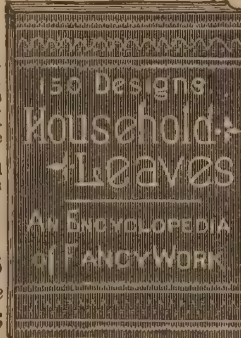
we will send *The Household Monthly* ONE YEAR, ONE COPY of *Webster's Dictionary*, ONE COPY of *Household Leaves*, and 1 YEAR'S subscription to *Sunshine for Youth*.

ALL FOUR POSTPAID. \$1.00 Covers the whole Combination. We want you to KNOW what *The Household Monthly* is by being a subscriber, and are willing to PAY YOU to subscribe.

Remit by registered letter, check or P. O. money order.

W. N. SWETT & CO., 9, 11, 13, 15 Willow St., Lynn, Mass.

The actual average bona fide circulation of "The Household Monthly" in 1888 was 158,916 copies per month. We want 100,000 more.



Robinson's Sura Cura SURE CURE FOR RHEUMATISM And NEURALGIA.

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

ALTHENE SKIN SOAP

An absolutely pure and perfect soap for all purposes of the toilet, nursery, bath or sick-room. Has the approval of leading chemists and physicians, and is recommended by all who have used it. Price 25 cts. a cake, or 65 cts. for a box of three. Can be obtained of the retail druggists or from

**J. W. CAMPION & CO., 916 Filbert Street,
PHILADELPHIA.**

HORTON, CATO & CO.'S**"ROYAL" SALAD DRESSING.**

The best prepared Dressing, always fresh, does not turn oily, rancid or decompose as other dressings of a similar nature.

"ROYAL" WORCESTERSHIRE SAUCE,

The Peer of American Product.

HORTON, CATO & CO.,

SOLE PROPRIETORS AND MANUFACTURERS,
DETROIT, MICH.

PEACOCK'S BROMIDES

(SYR : BROM : COMP : PEACOCK)

NERVE SEDATIVE.

Each fluid drachm represents 15 grains of the Combined C. P. Bromides of Potassium, Sodium, Calcium, Ammonium and Lithium.

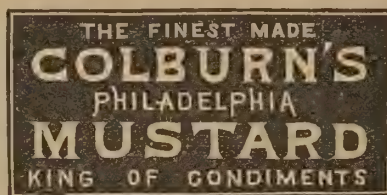
USES:—EPILEPSY, and all CONCESTIVE, CONVULSIVE, and REFLEX NEUROSES.

This preparation has stood the test of time and experience, and can be relied upon to produce results, which can not be obtained from the use of commercial bromide substitutes.

DOSE:—One to two FLUID drachms, in WATER, three or more times a day.

PEACOCK CHEMICAL CO., St. Louis.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for Dyspepsia, Diabetes, Debility & Children's Food. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES**, Props., Watertown, N.Y.



THE VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynæcologists. **Five Thousand Physicians** have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

OPIUM AND LIQUOR HABIT CURED.

WE solicit an investigation of our system and methods, and will gladly send to any one very interesting matter on the OPIUM HABIT DRUNKENNESS and their effects and cure. Physicians specially invited to examine, and if desirous of trying our remedies, liberal arrangements will be made with them.

THE LESLIE E. KEELEY CO., Dwight, Illinois.



is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A. sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. **WOOLRICH & CO.**, Palmer, Mass.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your **LIQUID PEPTONOIDS** as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the **LIQUID PEPTONOIDS** full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try **LIQUID PEPTONOIDS** in two very desperate cases of **DIPHTHERIA**. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your **LIQUID PEPTONOIDS**."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In *dyspepsia* and *loss of appetite* its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatic and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis* and other wasting diseases, *Nervous Prostration*, *Constipation*, *Inanition*, *Malnutrition*, *Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with **LIQUID PANCROBILIN**, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. **PILL PANCROBILIN** is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.

Acidi Phosphorici aa, grains, ss.

Antipyrin.

Ext. Apii. Grav. dulc. (Celery), aa grains, j.

Sodium Bromide, grains, v.

The satisfactory results produced by **PHOSPHO-CAFFEIN COMP.** in *Headaches*, *Neuralgia*, *Insomnia*, *Neurasthenia* and general *Nervous Irritability*, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

(ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 263 Washington Street, 84, 86 and 88
North Moore Street, New York.

ARMOUR & CO.

CHICAGO, ILLS.

PACKERS OF

Pork and Beef Products

CANNED MEATS,

ETC.,

FOR HOME CONSUMPTION AND FOR EXPORT

TO ALL PARTS OF THE WORLD.

Also,

SHIPPER OF

Choice Pressed Beef,

MUTTON AND HOGS,

In Refrigerator Cars,

To BOSTON,

NEW YORK,

PHILADELPHIA,

BALTIMORE,

And other cities throughout the country.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans. PRICE BAKING POWDER CO. NEW YORK. CHICAGO. ST. LOUIS.



MADE FROM 99⁵⁰ PURE CREAM TARTAR.
This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.
STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"GOOD MORNING" COFFEE PERCOLATOR.

RICHEST, PUREST, BEST
CUP OF COFFEE
EVER MADE.

SIMPLEST AND
QUICKEST PROCESS.

RETAINS THE FULL STRENGTH
AND AROMA, BUT HAS
NO BITTER TASTE.

ONE
POUND
OF
COFFEE
WILL GO
TWICE AS FAR
AS BY
ANY ORDINARY
METHOD.

FOR SALE BY
THE TRADE.



IF YOU CANNOT PROCURE IT IN YOUR TOWN,
WRITE TO
MANNING, BOWMAN & CO.
57 Beekman St., New York.
Circulars and Price List sent Free
on Application.



For sale by all stationers.
THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

A CENTRAL LOCATION.

Pronounced success is the Sturtevant House, Broadway, cor. 29th Street, New York. Rooms, \$1.00 per day and upward, European, or with board, \$3.00 to \$4.00 on American plan.—Graphic.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

How Many Babies

grow up weak and puny when by using

RIDGE'S FOOD

health and vigor would follow! Woolrich & Co. on label.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COM. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 7.

NEW YORK, THURSDAY, FEBRUARY 14, 1889.

WHOLE No. 103.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CONTENTS.

A Curious Clock	79
Ancient Table Manners	78
Conspirators Foiled	77
Correspondence	77
The Real Cattle Interests.	
Compulence, Cure for	78
Domestic Dietetics	79
Dust in the House	77
Editorials	73
Anti-Oleo Again; Beef Inspection; Our Corn Product; New York as a Summer Resort; Short-Sighted Maine.	
Glycerine, Its Uses	78
Gout, How to Acquire	79
Home Ventilation	78
Macaroni	74
Mind and Weight	78
National vs. State Beef Inspection	75
Nitrogen, Its Properties	76
Queer Food Venders	75
Saccharin	78

ANTI-OLEO AGAIN.

The movement in opposition to oleomargarine is revived by a certain class of agitators with such apparent earnestness and at such regular intervals that suspicion is sometimes engendered as to its real honesty. It has been suggested, for instance, that the dairy interest find it expedient to go frantic every once in a while over the abomination, to them, of a cheap substitute in order to divert attention from the wretched quality of the product they themselves manufacture. However that may be, a better common sense seems to be gradually gaining ground in regard to the merits of the controversy, and there are hopeful indications that the iniquitous oleomargarine bill will, after a while, be repealed. It certainly seems monstrous that the manufacture of a cheap, wholesome, palatable product, indorsed favorably by all the leading chemists of the world, should be hampered by Federal restrictions to almost the point of absolute prohibition, in order to allow an exclusive privilege to the rancid, heterogenous, artificially-painted butter stuff which our farming population inflict upon the community. The poorer classes, who would be the gainers by the cheap, pure, artificial

article, are the helpless victims of the costly, impure, so-called natural article. Our attention has been called to the subject by an effort set on foot in this city about a fortnight ago to secure from Congress a large additional appropriation for the enforcement of the oleomargarine law. The Internal Revenue Department collects now a tax of \$800,000 from the oleomargarine manufacturers and dealers. The Deputy Dairy Commissioner of this State, who has made himself chiefly conspicuous by his unmeasured hostility to oleomargarine and his blind incapacity to detect the trickeries of the dairy men, now calls for an appropriation of \$500,000 in order to insure the collection of the \$800,000 tax. The proposition was indorsed by a handful of merchants, not all of whom were dealers in dairy products, and the general impression in the trade is that the scheme was devised in order to provide a shield for the Deputy Commissioner's own official shortcomings. The *Commercial Bulletin*, probably the best authority on the subject, regards it as a singular feature of the matter that the Federal officials are satisfied that the oleomargarine law is as well enforced as any of our revenue measures at present; that the interests of the Government are protected, and that if Mr. Van Valkenburgh's representations are correct the fault lies with himself and other State and local officers rather than with the Government service. It is also worthy of notice in this connection that while the Federal officials feel competent to enforce the oleomargarine act with a reasonable degree of efficiency, at less cost than five-eighths of the revenue collected, they express fears that the prevention of adulteration of butter and cheese is not equally effectual. This is a matter with which Mr. Van Valkenburgh's duties are more directly connected than with the enforcement of the Federal law. While the Government officials are enforcing the oleomargarine act without expending more than half the revenue in the employment of agents, the State Dairy Commissioner and his aids might give a little more attention to the investigation of the charge made by the Commissioner of Internal Revenue that nearly half as much oleo oil as is used in making oleomargarine is clandestinely used in the adulteration of dairy products.

BEEF INSPECTION.

In another part of this issue will be found an extended discussion of the beef inspection question, expressing the views of several Western live stock journals and boards of trade and other interests, whose opinions, based upon practical familiarity with the subject, will be generally conceded as of high authority. It is noteworthy that these opinions are unanimously and unequivocally adverse to the proposition of local State inspection. If the purpose of wise legislation is to further the advantage of the many, and not to discriminate for the special benefit of a few, it is difficult to see on what ground opposition can be based to the principle of national inspection. The effect of such a system would be to insure to the public a supply of sound, wholesome beef, every ounce of which would bear

the stamp of Government approval, and the uniform quality of which would both stimulate its domestic consumption and encourage its use in foreign countries. Such a plan would seem to commend itself to the judgment as being founded on wide-reaching principles of prudent and patriotic policy. The cattle-raiser of the West would be spurred on to maintain the best physical capacities of his herds, while the Eastern consumer would rest easy under the assurance that his beef supply was being selected for him under the highest guarantees that could possibly be secured. How would the other proposition operate? Every State would have its own system of inspection, the varying conditions of which would, of necessity, be amenable to political manipulation. Party influence, and not personal capacity, would be the test of the inspector's eligibility. The Eastern butcher would be overrun with low-grade cattle in the scramble that would ensue to reach the market in the cheapest manner; the Eastern farmer would be unable to compete against the cheaply-matured Western product, and the best beef would be of inferior quality. In this general deterioration, which we have not drawn with exaggerated emphasis, the home consumer would be the helpless victim, and the foreign export trade would pass into oblivion. In fact, all parties would be sufferers should the narrow policy advocated by only a small clique of short-sighted Eastern agitators prevail. The reasons in opposition to such an outcome of the controversy are so plain and so cogent that there probably is little real cause for apprehension. Meanwhile, we commend the opinions set forth in the article above referred to to our readers' careful perusal, as they embody a large amount of good sense and practical thought on a subject which is of great importance to every housekeeper and family in this community, but the discussion of which has been too largely monopolized by a clique of tricky self-seekers, jealous of success which they have not the shrewdness to achieve for themselves.

OUR CORN PRODUCT.

While European countries, with their dense populations and low wages, are interested in obtaining a cheap and wholesome supply of food, there is probably no article of food that is so cheap and wholesome, and that can be utilized in so many ways, as our American Indian corn or maize. It is to be hoped that the Paris Exposition this summer will serve to make Europeans better acquainted with the value of American corn. It will also serve to secure a new outlet for one of our staple farm products, which now finds a market abroad for only about 4 per cent. of its harvest. The canning business also is deeply interested. Every possible means should be taken to instruct our European brethren in the many hundreds of ways in which corn can be utilized, not only as a delicious and nourishing human food, but as a superior substitute for oats and barley for cattle and horses. A few statistics will show how much the United States are interested in having Europe understand what a valuable commodity we are offering them.

The AMERICAN ANALYST has already published many receipts for the preparation of corn, and will continue to do all that lies in its power to extend this useful information regarding our greatest crop. It is a matter of national importance, and Congress, the various State authorities, commercial exchanges, and especially the press, should do everything possible to convince Europeans of the incalculable value of corn as a food. Last year we produced 2,000,000,000 bushels, which at the present low price will bring us in nearly \$700,000,000. Take the single State of Iowa, and the corn reached in 1888 the enormous total of 321,629,952 bushels. The average price paid was only 23 cents per bushel, but even at this low price the commercial value of the crop in that State alone was \$74,000,000. This is almost equal to the value of all the gold, silver and lead mined in the United States in 1886, which was \$87,535,000. It is almost a larger sum than all the railroads in the United States paid in dividends on stocks in that year. It is \$8,000,000 more than the total net earnings of all the national banks in America, and is considerably more than the total dividends paid by those banks in 1887. It gives to every man, woman and child in the State, after reserving seed for 12,000,000 acres, nearly 12,000 bushels, or six tons of corn. From the official returns of the Iowa Agricultural Society, the yield of the leading corn States is as follows:

	Acres.	Bushels.
Iowa.....	7,797,090	321,629,952
Illinois.....	7,047,813	277,726,451
Indiana.....	3,419,377	128,436,284
Kansas.....	5,574,465	168,754,087
Missouri.....	6,447,168	210,832,394
Nebraska.....	2,804,216	84,126,352
Ohio.....	2,460,082	90,423,821

Total for the seven States... 1,281,919,349

NEW YORK AS A SUMMER RESORT.

The discomforts of the conventional summer country resort are being every year more impatiently tolerated, and to a large class of philosophical reasoners, mostly confined to the male sex, however, the superiority of New York City as an abiding place during the "heated term" is genially acquiesced in. The advantages of the city for that purpose are briefly and accurately delineated by the *Sun* in referring to a report that President Harrison is already hunting up quarters in which to spend the heated term of the coming summer. The *Sun* "feels free to say that this paramount American city of New York may be a refreshing and attractive place of abode during the hot weather. He can lead a very quiet life here, as many of our people do, enjoying the invigorating sea breezes from the south and the soothing airs from the hills that lie northward. He can find pleasant parks in which to take a stroll, pleasant waters, salt or fresh, in which to take a sail, pleasant tracks on which to take a drive, pleasant places in which to take a glass of pop, and tip-top barber shops. In short, he can spend as agreeable and profitable a vacation in this town as in any other part of the widespread American Republic."

SHORT-SIGHTED MAINE.

The anti-cigarette movement progresses slowly, but its ultimate success is as certain as fate. We recorded last week the introduction into the New York legislature of a bill prohibiting the use of cigarettes or cigars by minors. We hope the measure will prevail. On the 6th inst. a somewhat similar bill was discussed in the Maine Senate, where it was unluckily defeated on grounds of local policy. Its purpose was to prohibit the sale of cigarettes, tobacco or snuff to minors; also prohibiting the giving of these articles to minors. The bill was instigated by the Women's Christian Temperance Union and was favorably reported by the Committee. The most effective argument against the bill

was made by the Aroostook Senator, who declared it would ruin many traders in his section who derive a large part of their income from sales of tobacco to French Canadians, young and old, at work in the woods. The bill consequently was defeated by a vote of 17 to 14.

MACARONI.

WHAT IT IS MADE OF, HOW IT IS MADE, AND WHERE IT IS MADE.

Properly speaking, macaroni is a food peculiar to Italy and the Italians. In fact, the Italians are the only people who understand how to properly prepare macaroni for the table; but since within a few years macaroni has come into very general use in this country, it has become an esteemed common article of food with Americans and Europeans, and they are beginning to understand how to properly prepare it. That it is of Italian origin there is no doubt. It is now largely manufactured in Chicago and distributed from there extensively, though the industry is under the control of Italians. The modern roller process of milling is responsible for this change—that of reversing circumstances, so that whereas, fifteen years ago, nine pounds out of every ten used were imported, now the case is exactly the opposite. The roller process wheat flour is the best for making macaroni, and the Italian-American who found it out knew a good investment when he saw it. The process of manufacture is simple and cannot avoid being cleanly. In making macaroni, the very best flour is simply kneaded into a dough, water only being used. It is then passed through a mixing machine, a very ingenious device, and is kneaded by means of a heavy polished iron roller weighing about two tons. It is then pressed in cylindrical iron presses through a perforated mold placed in the bottom of the cylinder. In the centre of these little perforations there is a cone much like the mold used in making clay pipes, which produces the familiar hollow tubes. This is macaroni mezzani. Then, again, according to the needs of the trade, the simple dough is cut into most complicated and fantastic figures, the shape being as ingenious as the inventive faculty of man. There are over 200 different shapes in all, some being made in the form of stars, letters of the alphabet, sea shells, corrugated forms, ribbons and the numerals, as 1, 2, 3, 4, 5, 6, 7, 8 and 9. The fine, silk-like thread is called vermicelli and filleni—*vermicelli* meaning worm-like, and *filleni* filament. There is one kind which comes in short pieces, about an inch long. This is known as mostacioli and is a Genoa macaroni. Some kinds that are used for making soups are Stella-Semi-di-Cicora, Rosa marina, Tubettini, Semi melone, Ditali, Zita Tagliati, Mezzani Tagliati and Acini de Pepe. These are cut up in the form of grain, rice, little stars and the like. Those in common use are in the form of long, hollow tubes and are known by the names of Spaghetti, Macaroncelli, Zita, Vermicelli, Vermecellini, Perciatelli. All of these are manufactured in and shipped from Naples. Genoa macaroni is known by the numerous names of Danatalli, Reginetti, Bavettini, Forati, Fidelini, Danatali, Rigati, Mostacioli, Spaghetti in fancy shapes, Ditali, Reginin, Da Frati, Dapanieri, Fidelini, Lasagnetti and Rellalaga. That of Naples is mostly white and yellow. The yellow macaroni is colored with saffron and eggs. There are also brown and grey macaronis. Some macaroni is as fine almost as hair, while others are as large as a man's finger. The climate and the water of Italy are what make the difference between the macaroni manufactured in Italy and that made in America. As much American as any flour is used in the manufacture of macaroni. The millions of boxes which are imported into this country yearly contain about 25 pounds each. New York is the principal importing point. The boxes are covered around the edges with pink or blue paper, so as to exclude the air. There are many different brands manufactured, and, as in other goods, these different brands differ widely in

quality and value. The whiter kinds are said always to be the best. When cooked, macaroni should not crack or become flattened when subjected to hot water, but should retain its cylindrical form and should swell considerably, otherwise it lacks the important glutinous property, and indicates that it is made of not the best quality of wheat. Macaroni is made quite extensively in Marseilles and other places in France. One peculiarity of this staple article of food is that it is almost proof against climatic changes and influences. It is related that in one of the *cache's* constructed by Sir John Franklin's party a box was found intact and untainted, forty years after, and at the time of the Greely rescue, the first food served the survivors was macaroni soup. Dr. Livingstone always endeavored to keep a supply of macaroni while engaged in his African explorations, but some time ago the statement was published that Henry M. Stanley's supplies had been reduced to a quantity of vermicelli.

LEATHER MADE FROM WOOD.—Dr. George Thenius, of Vienna, has a process for the manufacture of artificial leather from red beechwood. The best wood for the purpose is taken from 50 to 60-year old trees, cut in the spring, which must be worked up immediately, bark peeled off, steamed, treated with chemicals in a kettle under pressure, and exposed to several more operations, which the inventor does not mention, as he wants to have them patented. From the prepared wood strong and thin pieces are made by means of heavy pressure. The inventor states that a solid sole-leather can be obtained which he claims is superior to the animal leather in firmness and durability, and can be worked up in the same way as animal leather, nailed and sewed.

London's Distinguished Dental Firm

Writes regarding the



95 & 96 LONDON WALL, E. C.,
LONDON, NOV. 25th, 1888.

GENTLEMEN: We consider the **Polisher** well deserving the notice of all who wish to preserve and beautify their teeth, and it may be described as the *ne plus ultra* of tooth brushes.
GEORGE R. MATLAND.
THOMAS C. MATLAND.

AT ALL DRUGGISTS.

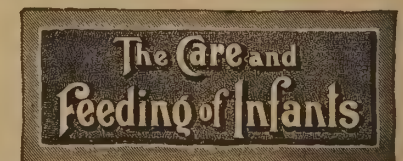
Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mailed.

HORSEY MFG. CO., Utica, N. Y.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

QUEER FOOD VENDERS.

HOW A PORTION OF THE METROPOLITAN FOOD SUPPLY IS HANDLED.

There are about 3,000 persons in New York—not quite half them licensed—who make a living out of “hawking” second-class commodities of life. Some of them fill a real want in the poorer sections of the city, but not a few depend mainly for their success upon the irresistible temptation that, to some minds, exists in the prospect of getting things for less than their value. Through the winter our commission merchants are constantly in receipt of large consignments of game from Maryland, Illinois, Michigan, Kansas, Missouri and elsewhere. If the weather is at all warm and humid, ducks and other game birds must be handled very promptly. Experts sort them over when received, tossing out all that have “turned soft” or show a tendency to do so. The others are hung up by the heads—in which position they will keep best—and are sold at good prices. But the “soft” ones are made up in strings and bunches to be sold at whatever prices they will bring. The fellows who “hawk” them about are carefully gotten up in the guise of hunters, with long boots, shooting coats, and sometimes guns, if the birds are particularly “queer.” They always pretend to be from the country, and, swearing that they “shot ‘em yesterday,” are ready to tell, with nice circumstantiality of detail, just where on Long Island or in New Jersey they had such good luck. An unsophisticated man who believes them will be amazed at learning how much good shooting there is close to the city. He will know more when he starts out to shoot his own game. The reasons that the fellows give for selling their birds away below market prices are that they “want to get back home,” that “birds are so plenty a man can make plenty of money shootin’ them without bein’ a hog,” and that they “don’t know what they rightly are worth.” The “buckster” wagons are the channel by which the stupendous quantities of poor and damaged fruits that reach New York in the fruit season are worked off among those who cannot afford the best. Bruised apples, molded and shriveled grapes, green and black bananas, damaged oranges, and half-rotten pineapples, even such as are beyond utilization in a canning factory, find ready sale on the streets. Of course the Health Officers now and then interfere with the vending of the very worst stuff, but far beyond where they draw the line it is still in eager demand, if its price is only low enough, in those parts of the “east side” that are thickly populated with Bohemian and Polish Jews, who seem absolutely reckless and indifferent as to what they devour if it is only cheap. Thus late in the season the howls of “Ap’s,” “Gerrapes,” and “Squinches” have given way generally to “Taters,” and “Cab’ges,” and many families and even small restaurants depend wholly for their supplies of those vegetables upon the street vendors, whose profits in such staple articles are small. To many inquiring minds a dark and noxious mystery clings about a peculiarly soft, tallowy, ranky, odorous, and slightly bitter cheese that is never found anywhere else than upon “free-lunch” counters. The veil may not be lifted from the secrets of where, how and by whom it is produced. Only the hawker, possibly, might tell, and he certainly will not. Ask him, and he simply replies: “I ketched it.” So far as buyers and consumers may know, its being began with him. Saloon keepers depend upon him for their supply of it, and the secret of its cost is kept between them and him. Other hawkers whose trade is entirely with the saloons are those who vend “bar greens” and lemons. The amounts of fresh mints, tansy and cresses used are considerable, and, though the profits on them are small, there is hardly any probability of loss, since they are easily kept fresh for several days, and the vendor who succeeds in building up a “line of custom” does pretty well. The best profits are made on limes, which are of irregular and often insufficient supply, but in constant

demand in the best class of saloons. From mention of saloon supplies furnished by vendors it seems a natural gradation to call attention to vendors who are practically saloons in themselves. There are such, and, singular as it may seem, most of them are women. Of course, they are all unlicensed and pursue their business in a shady and surreptitious way. They carry baskets of half-pint, pint and quart flasks filled with cheap liquors, which they peddle from room to room in tenement houses. As they have to compete with the lower classes of groghops and “morgues” their prices are necessarily extremely low and the quality of their liquors unutterably vile in proportion. Fifty cents per quart is supposed to buy their best grade of any kind of liquor, and all sorts—rum, brandy, gin or whiskey—cost the same. Their customers are generally women or men who pursue the humbler sedentary occupations, such as tailoring or cigar making, at home. Not a few of these cigarmakers, by the way, contribute the supplies for another class of surreptitious peddlers, fellows got up as sailors “ashore from a vessel trading to Havana,” who have alleged “smuggled” cigars, which they sell by the box very cheaply to half-baked clerks and others whose judgment is badly developed.—Times.

NATIONAL vs. STATE MEAT INSPECTION.

WHAT THE LIVE STOCK JOURNALS, THE BOARDS OF TRADE, AND THE GREAT DAILIES SAY.

The *Northwestern Live Stock Journal*, of Cheyenne, speaking of national inspection of meats, in representing the cattle raising interest, uses some very plain and convincing language. It says:

“The time has arrived in the history of this country when a system of national inspection of meat producing animals should be put in force. Our cattle, as a rule, are the healthiest on the face of the earth, but still there are some diseased cattle. National inspection should be established at all the great market centres where cattle are slaughtered by thousands and their products shipped abroad or to neighboring cities. This would satisfy all classes of consumers as to the healthfulness of the meat, and greatly stimulate consumption at home and trade with foreign countries. Our friends across the water have had so much experience and trouble with their own cattle from various diseases that they have become suspicious of all meat producing countries. They know that pleuro-pneumonia has existed in some of our eastern States, and that is sufficient excuse for condemning the cattle of all the States. The fact that the great bulk of our beef is produced in a region hundreds and thousands of miles away from all disease centres makes no difference to these foreigners for the reason that, being strangers to our country, they cannot take in the situation. All the governments of Europe are sticklers for “official action,” and nothing short of a governmental inspection will satisfy them as to the soundness of our meat product. This would open every port across the water to us and double our export trade in a very short period of time. This would mean a sharp advance in values at home, for the reason that it would give us an outlet for all of our surplus, which of late has caused so much trouble to producers. The only way to have an inspection that is thorough is to have it in the hands of government appointees who are not political wire pullers in the communities where they are called upon to serve. The business must be placed on a plane higher than the average municipal government. Such appointments are too apt to be given for services rendered in some doubtful ward, and not with an eye to the fitness of the man for the place. With national inspection inaugurated there would be a rapid return to prosperity in the cattle industry. Therefore the people should appeal to the Congress of the United States for immediate action on this question. There should be no division of opinion here, for the reason that it would help the producer and the slaughterer alike and give confidence to the consumers. Let us have national inspection.”

The same journal, speaking of State inspection, believes that such State inspection will lower values, and argues it as follows.

“The whoop of the butcher is heard in the land, crying aloud for State inspection of all live animals that are to be slaughtered and used for food. He desires that a law be passed, forbidding the bringing into any

State of the dressed product of the cattle, hogs and sheep of the land, or the movement of this dressed product from one incorporated town to another within the same State. To aid in the manufacture of a public sentiment in favor of the passage of such laws by the several States, the claim is set up that the exclusion of ‘Chicago dressed beef’ from all the towns in the east will throw the meat markets again into the hands of the local butchers and advance the price of the cattle raised in the east. This sop is thrown out to catch the eastern farmer and stock raiser, and bring the rural districts solidly to the support of the proposed measure when it comes up in the legislature for action this winter. The farmers of Indiana, Ohio, Pennsylvania and New York are chief political factors in their States, and their voice is potent in all measures. Hence the effort to capture them by a false presentation of the facts in the premises. Farmers, listen. The passage of the live stock inspection law, to be presented by the butchers of the country, will cost you a decline of twenty per cent. in the value of every beef animal you will have for sale. The voice of the butcher is the voice of the siren luring you on to destruction. On the contrary, let us reason together. To-day you are competing with Chicago dressed beef in the larger towns of the country where the consumption of meat is considerable, but the small towns are left to the local butcher and a very considerable trade, or demand exists for home dressed beef. Your cattle are fat and free from bruises and you realize a fair margin on your feeding, because you really have the edge on the live cattle market. Western cattle rarely come into competition with the beef steers of the farmer save in a few of the larger cities. But cut off Chicago, Kansas City, Omaha, St. Louis and St. Paul from their dressed beef product, nearly three million cattle a year, and you turn all these loose upon your local markets. The West is full of cattle cheaply raised and cheaply fed. They must be sold. If Chicago and the other western markets do not take them, they will be sent east to find a market. The country will be scoured from end to end to find a place for them. Your local markets will be overrun. When you are selling choice beeves at five and six dollars a hundred, the Colorado or Wyoming steers will be run in upon you in train load lots, and the local butcher, true to his instinct to buy the cheapest and sell the highest, will decline to pay you six dollars a hundred when he can buy something that will answer his purpose for three dollars. There will be no Chicago competition to urge him to buy the best in order to support his theory that home dressed meat is the best, and as the competition is gone there will be no object in having the best. The trade will be in his hands, and he will so manipulate it as to realize the most. His philanthropy and zeal for the people will have vanished with the coming of the opportunity to sell cheap meat and the farmer will find himself the sufferer. The experience of every farmer in the land is that small markets are easily glutted, and an over supply means ruinously low figures. Five or ten cars of fat steers from the west would demoralize two-thirds of the markets in the east and reduce the value twenty-five to fifty per cent. Instead of having a local market, you would be forced to seek the great cities, there again to come in contact with western steers rendered cheap by reason of a long haul and a pauperized condition of body. Poor cattle are demoralizers of markets in all countries, and values of good droop in sympathy with the bad. Safety to the eastern farmer who hopes to feed cattle will vanish on the appearance of the cheaply matured western steer, and State inspection will carry them to the remotest corners of the consuming districts. Wash your hands of the scheme, for it means your ruin.”

In this connection, the same journal further ascribes the low price of cattle and high price of beef to where it really belongs:

“There are many amongst us who argue, and not without a good show of reasoning, that there is not now and has not been in the United States an over-production of beef in the true sense of the term. These reason that ‘over-production’ means a greater supply of the product than consumers will take at a normal or legitimate price for such product, which should bring it within the reach of such consumers. And notwithstanding the object lessons had at market centers, and that stockmen have been too often in the apparent position of those who should ‘take coals to Newcastle,’ when we consider that all through what has been to us a time of dire depression the prices of beef to Eastern consumers has been held to ‘82 prices, with in many localities an advance, we do not think the disclaimers of over-production have any laugh on them. There was a suspicious approximation in the dates when local butchers began ‘eating their white bread’ and wearing jewelry, and the time when producers of cattle slowed up on those practices—when Eastern butchers began flourishing with glitter, associations and fine properties, and Western stockmen were driven to renew notes on ruinous terms or bite the

dust. During these years of bitterness to the live stock industry it has been notorious that nowhere in the United States has beef been cheapened to the consumer. The local butchers have stood in the attitude of prohibitionists of the beef habit; and, while on the one hand they have all but ruined the producers of cattle by the cheapening processes and taking advantage of circumstances and conditions, on the other they have raised the price of beef to the consumer to a scale that prevents use save with the well-to-do. As consumption has fallen off, the butcher has calmly raised the price and so makes the same money, while he handles less beef and takes less business chances. And so he brings about that abnormal state of affairs which gives color to his remarks as he tells cattlemen of over-production. Have not the local butchers wantonly brought about under consumption? It looks as though the local butchers of the country have been enjoying a 'dead grab' with both hands; and now, when they come before the legislatures and ask for local live inspection, one can only believe that they wish to intensify and perpetuate that state of affairs. Perhaps they have noted that Western cattlemen have found, in the packing and dressed beef interests, a buffer against butcher flintiness of soul—and want the earth. While no one will claim for the Chicago disseminators of beef products only motives of pure and simple philanthropy in the premises, we know that they take and pay for thousands of Western cattle every day which otherwise would not find market; and we know that the killing of that market by local live inspection would turn our affairs over to the tender mercies of the cleaver, the long, keen knife and the buzzard. An old law maxim is in effect that 'he who comes before the courts [or legislatures] of his country asking justice must come with clean hands.' The hands of the local butchers are red—literally with the blood of cheap cattle and high-priced beef, and, figuratively, with that of the cattle-raising industry and the more refining influences of life. If there is over-production in the cattle industry, local live inspection and the crippling or destruction of the packers and dressed beef people will cause the condition to stand out for Western producers with a ghastliness heretofore unthought of; if there is no over-production, the butcher-sought law, by lessening the Chicago capacity to take our cattle, would cut off our outlet, and by placing us more surely in the hands of the local butcher strengthen the false appearance. The local butchers have placed themselves without the pale of sympathy in their fight for this law from either producer or consumer of beef."

The Chicago Tribune of January 25th, answering the question "Can Pennsylvania get protection against the West?" logically says:

"High-tariff Pennsylvania desires a free export trade to the rest of the world in selling her products, but in producing them wants protection not only against foreign competitors, but even against other States of the Union. A despatch from Harrisburg gives this description of the bill introduced in the Pennsylvania Legislature to exclude Western dressed beef from the markets of that State:

"This committee has prepared a bill which will be introduced in the House early in the session. The bill provides for the appointment of inspectors in all parts of the State, whose duty it shall be to inspect all cattle on the hoof before they are permitted to enter the abattoirs. The bill also contains a provision which makes it a misdemeanor to expose, sell or offer for sale any dressed beef or any other fresh meat unless the animal from which it comes has been so inspected within the limits of the State. The effect of this is to debar the Chicago beef from the markets of Pennsylvania, which, outside of New York, are perhaps the most important for the syndicate in the country."

"Since the real purpose and effect of the measure is, as stated, to 'debar Chicago [which means Western] beef from the markets of Pennsylvania,' the bill is plainly unconstitutional, and would be set aside by the Federal courts as an unlawful attempt by a State to interfere with and destroy the freedom of interstate commerce. The attempt is under the guise of an inspection law to protect the community against the falsely alleged 'diseased meat'—to interfere with and, in fact, destroy the freedom of interstate commerce in dressed beef. The Supreme Court has repeatedly declared that it would exercise the greatest vigilance to prevent such abuses of power by the States under color of enacting quarantine or inspection laws. 'The object of inspection laws,' said Chief Justice Marshall in a leading case, 'is to improve the quality of articles produced by the labor of a country—to fit them for exportation or it may be for domestic use. They act upon the subject before it becomes an article of commerce among the States, and prepare it for that purpose.' Hence a bona fide beef inspection law would provide for inspection at the place of slaughter before the beef 'becomes an article of commerce among the States,' and with a view 'to prepare it for that purpose.' Such a method of inspection can only serve the purpose with a product like dressed beef,

where the examination must take place before the animal is killed, and not when the beef is offered for sale in another State. To demand that inspection on the hoof must take place only in the State where the meat is to be sold is equivalent to excluding the dressed beef of other States entirely—the good as well as the bad—and this cannot be done. The limit of an inspection law is to 'fit the article for the market and give the purchaser assurance that it is in proper condition.' Hence a law of that character framed to guard against the packing or dressing of diseased or tainted meat, and requiring inspection 'before it becomes an article of commerce among the States,' and intended to 'prepare it for that purpose,' would be valid, while an absolute exclusion of all beef dressed or packed in other States, without regard to its quality or condition, would be grossly unconstitutional. Some products, such as petroleum, for instance, may be inspected in the State where they are offered for sale, when the quality or condition may thus be correctly ascertained. In such cases the State may make local inspections, and permit only the sale of the product found to be in merchantable condition. But with dressed beef such examination can be made only at the place of slaughter before the article enters into interstate commerce, and in order to 'prepare it for that purpose.' Such a method of National inspection would be constitutional and proper, while the pretended inspection law proposed in Pennsylvania to exclude Western dressed beef and protect the butchers and stock-growers of that State from Western competition would be nothing less than an unlawful attempt to violate the Constitution of the United States and destroy the freedom of interstate commerce to get more tariff bonus for the over-fed Pennsylvanians. Pennsylvania has bought little and sold much to the West and waxed fat at the expense of this section, but she will hardly have the freedom of interstate commerce in any article wholly destroyed for her advantage."

THE BOARD OF TRADE OF CHICAGO HAS ALSO SPOKEN.

The Board of Directors of the Chicago Board of Trade at a special meeting January 24, 1889, unanimously adopted the following preamble and resolutions:

WHEREAS, Bills have been introduced into the Legislatures of Pennsylvania, Ohio, Kansas, Colorado and other States; and,

WHEREAS, Said bills are all designed to exclude from sale in such States dressed beef, hogs, sheep, green hams, shoulders, bellies, etc.; and,

WHEREAS, The success of these bills in these States, followed by others, would irretrievably embarrass and ruin the dressed beef industry; be it

Resolved, That we take pride in the industry, energy, and economy of our citizens who have built up in a few years a trade in dressed beef, hog and kindred products of remarkable magnitude, expending millions here annually for labor and materials, and also in the fact that their enterprise has greatly cheapened the price of beef to the whole country; and,

Resolved, That we earnestly protest against special legislation of this kind, leveled against a manufactured product of this State, as being unwarranted and without precedent, and calculated to provoke retaliation; and,

Resolved, That from the testimony of our City and State Boards of Health, and also from the recently published and convincing statement of Elmer Washburn, Superintendent of the Union Stock Yards, Chicago, we believe in no place in the United States is such care and vigilance exercised in the inspection of cattle before and after slaughter.

Resolved, That the pretense that dressed meats are diseased, advanced by the adherents of these bills, is a sham; that the sole purpose and design is to cripple and impair one of the great industrial enterprises of the country, and the false charges made by the supporters of such legislation will injure the reputation of our meat products at home and abroad and damage the cattle raising industry of the entire country.

Resolved, That a copy of these resolutions be sent to every member of the Legislatures before which bills are or may be pending.

AND FINALLY THE CHICAGO LIVE STOCK EXCHANGE.

At the regular monthly meeting of the Board of Directors of the Chicago Live Stock Exchange, held January 28, 1889, the following preamble and resolutions were unanimously adopted:

WHEREAS, Certain members of the State legislatures of Pennsylvania, Ohio, Kansas, Colorado and other States have introduced bills designed to exclude from sale in their respective States all kinds of fresh meats, unless the animals from which such meats are made are

inspected on the hoof and slaughtered within the confines of the States where such products are sold, and,

WHEREAS, The adoption of such laws discriminating against our animal food products would be followed by similar measures in foreign countries, as has already been done in the matter of our hog products, and would result in the ruin of the live stock and cattle raising interests of the entire country, and,

WHEREAS, The system of inspection of all animals slaughtered at the Union Stock Yards of Chicago is of the most thorough and radical nature, and is administered by practical and efficient sanitary and State officers; therefore,

Resolved, That we, the Board of Directors of the Chicago Live Stock Exchange, an institution having a membership of over 500, who are largely the owners, feeders and raisers of all kinds of live stock, and also the representatives of the principal live stock producers of the entire Western country, do most emphatically protest against the enactment of any such laws as pernicious and unwarranted class legislation.

Resolved, That our cattle, hogs and sheep were never healthier, and that the claims made by advocates of such measures that our fresh meat products are diseased and unhealthy are without foundation in fact, and only made as a pretense to secure such legislation, their object being to shut off legitimate competition and advance their own personal interests.

Resolved, That we are heartily in favor of national legislation providing for a system of rigid inspection of all animals slaughtered for food, by experienced, competent United States government officers, not only for the protection of our own meat consumers, but as an assurance to foreign powers that we are in favor of, and strong advocates of, healthy meats.

Resolved, That we hereby extend to any legislative body before whom any State inspection bills may be pending, a cordial invitation to send an unbiased committee of their number to this market, to thoroughly investigate the system of State and local sanitary inspection in operation at these yards, and convince themselves of the rigid scrutiny every animal landed here has to undergo, before being slaughtered or re-shipped.

CHARLES W. BAKER,

Secretary."

NITROGEN.

THE MANIFOLD USEFUL PROPERTIES OF A MYSTERIOUS ELEMENT.

There is a substance which is invisible, which has neither odor nor taste, which is perfectly inactive chemically, and, in fact, possesses no qualities of matter, except weight and bulk. This is the gas nitrogen which constitutes four-fifths of the atmosphere which surrounds us. It is apparently a dead, inert form or manifestation of matter, and yet it is, perhaps, one of the most important and useful of all the elements, and if it should vanish from the universe life would cease to exist. This apparent paradox is explained by the fact that by its combination with other elements the remarkable characteristics of nitrogen are awakened into action. The gas is neither poisonous, corrosive, explosive, nutritious nor medicinal, but combined with carbon and hydrogen it forms the deadly prussic acid; with oxygen and hydrogen, the strong corrosive nitric acid; with hydrogen alone, the strongly basic alkali ammonia; with carbon, hydrogen and oxygen, the terrible explosive nitro-glycerine; and with the same elements in varying proportions, it forms the albuminoids, the gelatines, the glutens, and other strength-giving elements of our food, or the indispensable medicinal agents—quinine, morphine, atropine, strychnine, veratrine, cocaine, and many others. Although nitrogen is tasteless, it forms an indispensable part of the flavors of the peach, plum, apricot and other delicious fruits, as well as coffee, tea, chocolate and tobacco. Without smell, it is found in many of the most powerful and delicious perfumes, as well as in the nauseating odors of putrefaction. Present in immense quantities in the air, it furnishes little or no support to vegetation, but combined with other elements the amount present in the soil determines its fertility, and the amount of crops which may be raised upon it. Colorless and invisible, nearly every dye-stuff or coloring matter known contains it in

greater or less proportion. Harmless and powerless by itself, when combined with another non-explosive gas, chlorine, it forms the most powerful explosive known, of which a ray of sunlight is sufficient to arouse the terrible destructive power. And yet, notwithstanding the pre-eminent importance of this element in the affairs of life, there are but few of its combinations which we can form directly. Millions of tons of nitrogens are all about us, but not a single grain of morphine or theine, gelatine or albumen, aniline or naphthaline, can we make from it. Only the mysterious vital force working in the natural laboratory of the vegetable or animal organism can build up most of these complicated molecules from their ultimate elements, and place the atoms of nitrogen in their proper position like the beams or stones of a building. Our wonder at the marvelous power displayed by these organisms is none the less when we see what simple, common and uncharacteristic elements are used by them in making up their wonderful products, and we can only say that it is a part of the great and unsolvable mystery of Life. Neither can we explain satisfactorily from a chemical standpoint the properties and reactions of this strange element; by itself it is nothing, but united with other elements, some almost equally inactive, the combinations thus produced manifest the most powerful and positive chemical and physical properties. It is like the springing into life of dead matter, but there is no system of chemical philosophy which can give a reason why it is so. It is the part of the chemist to observe and record the facts connected with the properties of different forms of matter, and in time we may from these facts construct a rational theory, but we are still a long way from a clear comprehension of the phenomena of the universe. There are about as many things in heaven and earth still undreamt of in our philosophy as there were in Shakespeare's time, and the further we advance towards the end the more the field widens and appears to be of illimitable extent.—*Popular Science News.*

CORRESPONDENCE.

THE REAL CATTLE INTERESTS.

NEW YORK, February 9, 1889.

Editors ANALYST: It is an old saying that when thieves fall out, honest people get their own. Much instructive as well as amusing reading can be got from those papers which claim to look closely after the interests of the cattle grazers, the farmer and the butcher. Whenever it seems to best serve their purposes, different sides of the argument are used with almost impartial division. Often this argument on both sides may be found in the same number in different columns. I have before me, as I write, a copy of the *Texas Farm and Ranch*, which frankly admits that the "big four," as it affectionately calls the four beef dressing firms of Chicago, furnished a market for cattle when it was sorely needed. It upsets this virtuous assertion by adding that it was a single market without competition. Of course it was. The enterprise and capital of the Chicago people was alone willing to take these cattle and pay such a price for them as would enable them to handle them profitably. If the ranchmen had not thought it a good opportunity to sell, they were not compelled to bring their cattle to what they admit was the only market open to them. Now as to the cause of the heavy decline in the price of cattle. This has often been laid at the door of the alleged cattle monopolists in Chicago, but now it suits the purpose of this representative cattle journal to frankly admit that the cause of the decline in prices was an entirely different one. Our friend goes on to enumerate them:

"What are the facts? From 1883 to 1887 the cattle business was on a boom. Breeding cattle had been attempted in the Northwestern States and territories, and there was a large demand for cattle for purely

breeding purposes. The fancy prices which this experimental demand created caused the boom. The experiment proved a failure, seventy-five per cent. of the cattle dying within two winters. The boom exploded. Prices dropped from \$25 per head in 1883 to half that amount in less than two years. At this time cattle were rushed on the market in excessive supplies, and the big four bought them at panic prices. Probably anybody else who happened to have the money and the judgment to back it would have done the same thing."

It further admits that owing to these Chicago people being the only extensive cattle buyers in America, with their large capital, business sagacity and boldness, they have succeeded in drifting the cattle currents of the continent to Chicago and its tributary points. What is there to justly complain of in all this? Had the cattle ranchers and farmers been given the same advantages, they would have established a cattle market wherever they could have got the largest prices for their cattle; but they had not the necessary—well, call it luck, if you will—but a better term would be, they did not know how to take the tide at the flood. Meanwhile the ANALYST is on the right path.

CLEAVER.

DOMESTIC DUST.

SOME HINTS ABOUT DUSTING AND HOUSE CLEANING GENERALLY.

The end to be achieved is the abolition of dust and dirt. The first object, then, is the collection of these obnoxious substances in a small compass, preparatory to disposing of them. Begin with the small articles, washing and wiping those that require it, and dusting others. Then, when perfectly clean, remove them from the room. (In cases where this is impossible they may be laid upon the bed, which must be covered with a large dusting sheet.) The furniture must now be brushed and cleaned, so much of it as is possible they may be removed from the room, the rest covered with dusting sheets. Now, dust the walls thoroughly and every mirror and picture, especially its back, with a large feather brush. By this time we will assume that all the dust and dirt of our apartment are gathered upon the carpet. With a broom clean every corner, working always toward the centre. Now, when these lurking-places are thoroughly cleaned out, bring in a carpet-sweeper, and with it gather up the whole collection, driving the machine systematically back and forth as the farmer does his plow, leaving a clean furrow each time. When this is accomplished wait a few moments until the dust can settle, so that you may know where it is. Again bring forward the large feather duster, brush again the pictures and mirrors, washing such as have soiled glasses. Remove the dusting sheets and shake them from the window, or somewhere out of doors. Restore the furniture and ornaments to their places, and the work is done, with one-half the weariness, and an excellent result, impossible without care and system. As to carpets, beyond the regular weekly cleaning, certain articles in a house, as well as the dwelling itself, must have a periodical overhauling, on which their welfare and services depends. The intervals at which carpets should be taken up and thoroughly cleaned and beaten depends upon their texture and the frequency with which the apartment where they are laid is used. In ordinary cases it is a good rule to take up Moquette, Axminster and Wilton carpets once in three or four years, and Brussels and velvet once in two or three. The texture of these is so firm that the dust does not sift through, and sweeping will remove all that accumulates upon the surface. Ingrain and three-ply carpets should be lifted annually, and if the room is very much used twice a year is not too often. The housekeeper will even then be astonished to observe the accumulation of dust beneath. To many people it does not seem to occur that a carpet can be washed. They would be astonished to see what an improvement can be made in this way. Take a gallon of water in which

two ounces of carbonate of ammonia have been dissolved, and apply it with a soft rag to each breadth. If there be any pronounced soils and stains, grease spots or other, procure from your butcher a pint of ox-gall. Mix it with three quarts of water and apply with a soft scrubbing brush, taking care to rinse thoroughly afterwards with pure water. A large brush of ostrich feathers is, of course, the best thing to use in brushing down wall paper; as most housekeepers know, these are expensive and likely to be soon destroyed if intrusted to servants. A soft cloth tied over a broom is a good substitute, and economical. If these do not remove the smoke or grime that accumulate, take a loaf of stale bread, divide it into quarters, and after moistening the cut surfaces very slightly, proceed to rub your paper very carefully, beginning always at the ceiling and moving your hand downward in straight lines. The results will be surprising. All careful housekeepers secure an extra roll when having their walls papered. If by accident your walls are broken or defaced at any point, cut a piece of the new paper larger than the marred spot, be sure it matches perfectly, cut the edges irregularly, paste (boiled). The eye will never trace the mended portion. If there are any spots of grease on your walls, mix some fullers' earth with a little ox-gall and cold water until you have a stiff paste; spread it on the spot and cover with blotting-paper; let it stand for several hours. If, on brushing it off, any of the grease remains, repeat the operation.

THE CONSPIRATORS FOILED.

PENNSYLVANIA REPUDIATES THE ANTI-DRESSED BEEF PLOT.

A dispatch from Harrisburg, Pa., of February 9, says: In the House yesterday the resolution to have the Anti-Dressed Beef Bill, which had been reported with a negative indorsement, placed upon the calendar was voted down, the nays 75 and the ayes 81, less than a majority of the whole House. The bill prohibited the bringing of dressed beef into the State.

AN AUDACIOUS AND INDEFENSIBLE SCHEME.

The N. Y. *Commercial Bulletin* of February 9 says on the above subject: The bill to restrict the sale of dressed beef has found its way into the New York Legislature, with the prestige of a favorable reception at Harrisburg and the capitals of other neighboring States, and with the indorsement of organizations that would be benefited by the prohibition or the sale of Western meat in Eastern markets and by the compulsory purchase at high prices of beef killed within the limits of the State in which offered for sale. The bill is, perhaps, the most audacious and indefensible of the large number of discriminating measures brought forward since the Federal and State Governments gave their sanction to the suppression of the oleomargarine trade for the benefit of butter dealers. The beef bill aims to obstruct the sale of dressed meat, so that Eastern butchers may command markets in which they cannot now compete. It is inexplicable that in the present state of public sentiment propositions should command popular support which have the avowed purpose of interfering with the sale of cheap food, and interposing the power of the State to enable an unsuccessful competitor to command a market in which he has been undersold by the cheaper supplies furnished by a legitimate rival.

AMERICAN WATCHES.—A first-class American watch, well-kept, will last thirty years, or sometimes even longer, before the works wear out, but the average life of an ordinary low-priced American watch is ten years, and that of a Swiss watch of the same grade seven years. The length of life for a watch depends largely on the number of its jewels. The range of prices for American watches runs from \$5 to \$500, the costliest being a split second minute register timing watch. In the United States about 3,500 watches are manufactured every day.

GLYCERINE.

SOME OF ITS PRACTICAL USES.

As a dressing for ladies' shoes it renders the leather soft and pliable without soiling garments which come in contact.

For excessive perspiration of the feet, one part of burnt alum with two parts of glycerine should be rubbed on the feet at night and a light, open sock worn. In the morning the feet should be washed with tepid water.

For bunions and corns, equal parts of Cannabis Indica and glycerine should be painted on the surface and covered with Canton flannel.

For the face, oatmeal into a paste with two parts of glycerine and one of water may be applied at night under a mask as a complexion improver.

As a supplement to a bath, two ounces of glycerine in two quarts of water will render the skin fresh and delicate.

For coughs, one to two tablespoonfuls in pure rye whiskey or hot rich cream will afford almost immediate relief.

For consumption, one part of powdered willow charcoal in two parts of glycerine is a panacea.

For diseased and inflamed gums, three parts of golden seal, one part of powdered burnt alum, and two parts of glycerine, rubbed on at night, after first removing any tartar.—*Scientific American*.

ANCIENT TABLE MANNERS.

COOKS AND TABLE CUSTOMS OF THE GREEKS AND ROMANS.

In an old Roman household, tradition tells us, the head cook was a high-salaried officer. Of course, your quick thoughts revert to the genius who presided over one famous dinner that Mark Antony gave to Cleopatra, and that was so sumptuous that it actually drew praise from that haughty dame, which unusual appreciation so delighted the infatuated Antony that he summoned the cook and gave him an entire city as a recompense. But it was no extraordinary thing for Roman cooks to command salaries of \$4,000 a year. The kitchen was a vast apartment separated from the house, and was governed by the "Archimagirus," or chief cook, who held the most stringent rules. These supreme officers were the recipients of no set salaries; they drew ample reward from their artistic fame. "Above all men," they were wont to say, "we are intrusted by the gods with the secret of human happiness;" and they asked for no higher recognition of their services. The Sicilians, however, ranked as the best cooks in olden times, and although the Romans many times offered them incredible sums for their services they were obdurate and never deserted their posts. It was one of the ancient customs to recline at the feast; and the banqueting rooms, gorgeously carpeted, were fitted up with luxurious couches. Heraclides says that the Persians were the first who engaged artistic experts especially to arrange these couches; and that on one occasion Artaxerxes presented his friend Timagoras, the Cretan, with a tent of great size and beauty, and a couch with silver feet, with an accompanying message saying: "I send you, O Timagoras, the couch and coverlets and a servant to arrange them, as this is a matter the Greeks know not of." It is related of this same Cretan, that he had so completely secured the favor of the Persian king, that the latter invited him to a banquet of the royal family, an honor never before paid to any Greek. Here is another custom of the ancients, and one in which we can see the origin of our menu cards. Each guest, as soon as he had settled upon his couch, was handed a paper upon which was written the name of every article to be served at the feast and in the order in which it was to be served—a convenient, if not an indispensable custom. Indeed, in the present day we

would be apt to look upon the omission as barbarous, for what could be more so than to keep a man of moderate gastronomic capacity in ignorance of some coming delicacy, and thus allow him, in the dark, to crowd it out with some previous dish or dishes which he may tolerate rather than fancy.—*February Table Talk*.

CORPULENCE.

SOME SUGGESTIONS FOR THE REMEDY OF OBESITY.

A correspondent of the *Journal of Commerce*, inquiring for a remedy for excessive corpulence, receives the following response: "Corpulence is due to an excess of hydro-carbon in the system. All oleaginous food, as fat meat, butter, gravies, milk, nuts and Indian corn, is a direct contribution to obesity. In addition to these the hydro-carbons are elaborated in the system by the starch and sugar of bread, potatoes, rice, tapioca, arrow-root, and various other vegetables, fruits and roots. Alcoholic stimulants are favorable to the deposit of fat, and the exact opposite—to wit, the free use of aqueous drinks—is still more conducive to corpulence. If a man could live wholly on a nitrogenous diet, confining himself to those azotized principles fibrine, albumen and caseine, which go to renew the waste of the tissue and are not convertible into fat, he would soon become as lean as he could desire. But these principles cannot be obtained in their purity in ordinary food, and if they could be the diet closely maintained would after awhile be fatal to the system. Some approach to it, however, may be made, and this is recommended to all who suffer from excessive corpulence. The normal diet of one in perfect health would be one of the nitrogenous principles to five or six of the others. A reduction of the latter so that the proportion shall be one to three will make a very perceptible change in the physical condition. To effect this let the diet be lean meat (no pork), lean fish (no salmon), cheese, peas, beans, cabbage, turnips and acidulous fruit. Avoid farinaceous food, including bread, pastry and potatoes, and all fats (butter especially) and sweets, saccharines of all kinds being especially fattening. Drink claret (with little or no water) and other sour or light wines, and if flour is used at all let it be in bread toasted very dry. A perseverance in this diet will inevitably reduce the avoirdupois of any human body."

HOME VENTILATION.

ITS IMPORTANCE FOR THE SUPPORT OF HEALTH.

An old writer says: "When men lived in houses of reeds, they had constitutions of oak; when they live in houses of oak, they have constitutions of reeds." Evidently the truth inculcated is that the better the air and more bountiful its supply, the healthier is the inmate of a house, be it palace or cottage. Too often the very wealth of a house builder militates against his splendid mansion becoming that ideal home of comfort that it should be, and the inmate of some wretched, leaky little hovel, perched on a rocky hillside, will have every advantage over such a one as regards vigor of body and elasticity of spirits. Science tells us that there is a needed respiration for the walls of our houses, and that, fortunately for us, whether conscious of it or not, the materials of which our modern houses are made admit of the passage of air in a greater or less degree. Brick, stone, wood and mortar, solid as they look to us, are easily pierced by that volatile fluid which we call air. Such is the elasticity of air that, fortunately for us, a slight force only is needed to put and keep it in motion. The difference of 20 deg. Fah. in temperature between outdoor air and indoor air will cause the passage of about eight cubic feet of air each hour through every square yard of wall surface made of brick. A plastered wall also admits of the free passage of air, and actually serves as an efficient

filter by arresting the progress of dust or any of those particles—often injurious—with which the atmosphere is laden. Heat is the great motor for ventilation, whether natural or artificial, and the great problem in winter is to introduce a sufficient quantity of pure warmed air to make one's room comfortable without attendant draughts that shall imperil the health of their occupants. Open fire-places, whether the fuel consumed in them be wood or coal, are among the very best ventilators that we have, and yet the question of expense is bringing them more and more into disuse. But there is no need to be discouraged on that score, because the eyes of all practical people are being opened to the importance of combining the twin forces of heat and ventilation in such a manner as shall tend, in the future, to prolong life as well as render it more comfortable and enjoyable.

SACCHARIN.

ITS IMPORTATION INTO FRANCE PROHIBITED.

The following is an abstract of the preamble of the bill now before the French chamber prohibiting the importation of saccharin into France: "The attention of the administration has been directed to a new coal tar product known as saccharin. This substance, which differs essentially in its elementary composition from vegetal sugars, possesses much greater sweetening power, a quality that was sure to lead to its being used as a substitute for sugar in many cases. We learned from our consular agencies abroad that factories were being established in certain countries for the purpose of bringing saccharin into competition with beet and cane sugar, not only in France, but also in other neighboring markets. The high cost of that substance seemed to constitute an insuperable obstacle to its general adoption, but lately the situation has changed. It can now be more cheaply produced, and already it is extensively used, mixed with glucose, in the preparation of jams, syrups and liqueurs. It has, therefore, become an urgent necessity to provide a remedy for the evil, in the interests of the customs receipts and that of the health of the consumer; for it has been shown by the report of Drs. Brouardel, Pouchet and Ogier, in the name of the consulting committee of hygiene, that saccharin, and the various preparations derived from it, are noxious to health, and ought to be prohibited. Wherefore the government has deemed it expedient to prohibit the importation of saccharin and saccharinated substances."

MIND AND AVOIRDUPOIS.

RELATION OF BRAIN WEIGHT TO INTELLIGENCE.

He does science a favor who dispels the least of still existing scientific superstitions. A scientific superstition has long prevailed in regard to the weight of the brain as compared with the weight of the body in man and other animals. Most physiologists hold that the weight of the human brain is one-fortieth of that of the body, and that such a proportion is not attained by any other animal. This flattering superstition is dispelled by some recent investigations of Dr. Joseph L. Handcock (*American Naturalist*, XXII, p. 537, June, 1888) on the weight of the body and brain of birds. He finds that in the smaller and more intelligent birds the weight of the brain rises to one-thirteenth that of the body in *Stetophaga ruticilla* (American redstart), and to one-seventeenth in *Regulus calendula* (ruby crowned kinglet) and *Parus atricapillus* (black capped chickadee); and in the larger and more sluggish of the tribe it often remains higher than in man or any carnivora.

A PEEP INTO THE FUTURE.—Friendly Spirit—"By the way, you have not met Mother Eve yet. Let me introduce you to her."

Spirit of Anthony Comstock (with averted face)—"I fear I could not bear it. Is—is she properly attired?"

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

February.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose.

FISH.—Bass, cod, crabs, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

CLAMS.—One hundred little neck clams, one pint of milk, four hard boiled eggs, pepper, mace, allspice, butter, flour; drain the clams in a cullender and pass a little fresh water over them; chop them up finely and put them into a stewpan with the milk over a brisk fire. Chop the eggs; add these to the clams as soon as they begin to boil. Rub as much butter and flour together as is required to thicken them; stir this in and add pepper, mace and allspice to taste; let the whole boil not longer than three minutes, then immediately serve.

VEAL CUTLET WITH CARROT SAUCE.—Select a cutlet from the thick part of the leg, beat it with a bat and brown it in a little hot butter. Boil a dozen small two-inch young carrots half an hour, in water slightly salted; mash them fine, rub them through a sieve and season with salt, pepper and two ounces of butter. Cover the bottom of a hot dish with the carrot purée; place the cutlets on top and serve.

TONGUE PIE.—Use equal parts of cold tongue and cold poultry or roast pork; season and place them in layers; add sufficient cold gravy to moisten the meat; bake with thick upper crust.

BEEF STOCK.—Put five pounds of lean beef in a stock pot; two gallons of cold water and some salt. Start to boiling slowly. Skim well and add two carrots, two onions, five cloves, three leeks, green celery, one turnip and one parsnip. Boil slowly for four hours. Remove all the fat and pass the liquid through a napkin. Add some caramel for coloring. Put away in a vessel and use as required.

SPICE CAKE.—One cupful of brown sugar, one of molasses, one of butter, one of milk, one-half teaspoonful each of nutmeg and cinnamon, one teaspoonful of ground cloves, three eggs, four small cupfuls of flour and two teaspoonfuls Horsford's baking powder.

SPONGE CAKE.—Eight ounces of corn flour, six ounces of white sugar bruised, four ounces of butter, three eggs, one teaspoonful of Horsford's baking powder and flavor with lemon. Beat all well together; bake in small tins in a slow oven.

FRENCH CAKE.—One cupful of sugar, one quarter of a cupful of butter, one-half cupful of milk, two eggs well beaten, one and a half cupfuls of flour, one teaspoonful of cream tartar, one-half teaspoonful of soda; one cupful of currants, a few slices of citron, teaspoonful of mace or nutmeg. Bake in thin sheets, frost and cut in slices.

HOMINY FRITTERS.—Two teacupfuls boiled hominy, one-half cupful cream, two tablespoonfuls corn starch, two eggs, one-half teaspoonful baking powder. Mix ingredients; drop into hot fat by spoonfuls; fry brown.

GOUT.

RECIPES FOR CULTIVATING THAT INTERESTING FIRESIDE
COMPANION.

Under the title, "Recipes for Making Gout," an English society journal, having exhausted its best advice as to the prevention of this dread malady, lays before its epicurean readers some specimen compounds peculiarly adapted to develop gout in those previously free and to excite its most virulent symptoms in the already afflicted. It has medical authority for its promise that the recipes it gives are really among the most exciting causes yet discovered in scientific or even what might be called haphazard cuisine; taking no account of the lesser causes, no doubt crediting the gouty with sufficient intelligence to foresee the effect upon the metatarsophalangeal joint of the great toe of the midnight lobster and the after-dinner port. It introduces a certain Dr. Hunter, whom it seems to regard as an authority on gout, and one can almost see a testy little doctor, rotund, red-faced, short-winded, with good living, and knowing his subject from sensation as well as study, as he takes up a famous cookery manual and reads: "Giblet soup, par excellence; veal stock, lemons, yolk of egg, forced meat balls, and Madeira." This, he says, contains a considerable amount of gout and scurvy. Of an unusually rich mock-turtle soup, he says: "A dangerous dish, and will soon bring a man to his crutches." Another of the same he declares most diabolical—only fit for the Sunday dinner of a rustic who is to work the six following days in a ditch bottom; while of a third, mock-turtle soup made with beef, ham, giblets, lemon peel, truffles, eggs, orange juice, forced meat and Madeira—a dish much admired by the patrons of a famous London restaurateur—the doctor says testily: "There is death in the pot."

It has often been observed of those afflicted with gout—the tone of the letters addressed to the society journal in question furnishes still another evidence of it—that they appear more concerned to discovering new remedies to lessen the pain when they shall be again attacked than in adopting a practical means for preventing its recurrence. They try colchicum, soothing topical applications, acetate of potash and other alkalies, and perhaps nitro-muriatic acid, the latter for supplying the oxygen necessary for the conversion of the excess of uric acid from which they are suffering into oxalic acid, and the latter into carbonic acid and urea—always with the hope, so it would seem, of accomplishing by chemistry what regular habits, air and exercise would ordinarily yield.

A CURIOUS CLOCK.

AN ASTRONOMICAL TIMEPIECE MADE FOR KING
HENRY VIII.

The astronomical clock at Hampton Court Palace is the most curious timepiece in England. An old inscription proves it to have been made for Henry VIII. in the year 1540. The designer is not known, but is supposed to be the famous German astronomer, Nicholas Cratzer. The clock was found only about three years ago in a shed, where it had been for half a century, and was restored by the Secretary of the Board of Works. One of the stories about it is that if a resident dies it stops. The dial consists of three copper disks of different sizes, with a common centre, but turning at varying rates. The center disk, the smallest, is 3 feet 3½ inches in diameter. In its center is a projecting globe, painted to represent the earth. The larger part of this disk is divided into four parts, and its outer edge is divided into twenty-four spaces. These represent respectively the quarters of the moon and the hours that it crosses the meridian, and they are indicated by a small red arrow, painted on the second disk, which always points to the quarter in which the moon may happen to be. The second disk is 4 feet 1½ inches in diameter,

but only the outer rim is seen, and that is divided into twenty-nine spaces, numbered from right to left, which represent the moon's age in days. From between the numbers one and twenty-nine is a pointer which marks on the outer disk the time of the day and the night as it passes the twenty-four Roman numerals, two sets of twelve, painted on the stonework, within which it revolves. The third disk, or outer disk, which is 7 feet 10 inches in diameter, has painted on it several sets of concentric circular spaces, first the names of the months, then the days of the months (only twenty-eight for February), next the signs of the zodiac, each zodiacal space being divided into 30 degrees, and on the outside of this disk a circle divided into the 365 days of the year. The weights that are used to run the clock have a drop of 60 feet, and it takes half an hour once a week to wind it. The clock is set in a stone frame about 15 feet square, with the badges of Henry VIII, above the portcullis and *fleur de lis* and the rose and his initials, H. R., below.

NOT THAT KIND.—"I have never met Dr. Littlepil," said the minister, "but I have heard he is quite an athlete—a man of powerful physique, is he not?" "Him," answered the carpenter; "naw! he's a homœopath."—*Brooklyn Eagle*.

WHALE HUNTING.—Hunting whales with steamers and cannon is a new idea. The harpoon is made with four umbrella-like ribs, which is fired from a cannon on the ship into the whale's body. Pressure makes it open up and take a wider and firmer hold, and the whale pulling sets off some nitro-glycerine confined in the cone or front part of the harpoon. With all this the whale sometimes runs for many miles, drawing after it the ship, often at the rate of sixteen knots an hour, and marking its course with blood. Two thousand feet of heavy rope are fastened to the harpoon, but this, as indicated, does not allow sufficient play for this great monster, which is often 70 to 85 feet long, and weighs 100,000 pounds. Afterward, when the whale is dead or nearly so, an iron chain is put around its body, and it is towed into the harbor of the fishing company.

EXPERIMENTS WITH LIGHT.—Dr. O. J. Lodge, a holder of the theory that light is an electrical vibration of the ether, has been endeavoring to produce these waves by direct electric action without the intervention of heat. The means adopted was the oscillating discharge of a Leyden jar, with a rate of vibration as high as 1,000,000 per second. The waves thus obtained were about three yards long, but, according to Dr. Lodge, were light in every particular except wave length. To reach the wave length of light, however, they would require to be shortened from three yards to the hundred thousandth of an inch. The electrical waves of Dr. Lodge travel through space at the same speed as light, and are refracted and absorbed by material substances according to the same laws. Hence Dr. Lodge concludes that if we can only generate electric waves sufficiently small we may entirely revolutionize our present modes of obtaining artificial light.

PAPER IN BUILDING.—The use of paper fabric for building purposes—by the term paper being meant, broadly, a flexible sheet made of vegetable or other fibre, which has been reduced to a pulp, and then pressed out and spread and dried—is now advocated by some builders on the following grounds: First, continuity of surface; that is, it can be made in rolls of almost any width and length, is flexible, or, by glueing several layers together, may be made stiff, and will stop the passage of air because there are no joints. Second, it has no grain, like wood, and will not split. Third, it is not affected by change of temperature, and therefore has an advantage over sheet metal as roofing material. Fourth, whereas in its natural condition it is affected by moisture, it may be rendered waterproof by saturating with asphalt, or by a variety of other methods. Fifth, it is a non-resonant, and well fitted to prevent the passage of sound. Sixth, it is a non-conductor of heat, and can be made also of incombustible material like asbestos, or rendered fire-resisting by chemical treatment. The combination of paper with other substances and solidifying the mass by pressure, renders practicable the production of a material capable of replacing wood for many purposes; and not the least among its characteristics of adaptability is the ease with which it may be made into sheets of any width and thickness, that it will not warp or shrink from heat, cold or dampness.

PREMIUM OFFER.

In order to increase our subscription list more rapidly, we make the following offer to those who shall send us, before July 1, 1889:

SUBSCRIPTIONS AT ONE DOLLAR EACH.

FIFTY DOLLARS IN CASH
for 200 Subscriptions.

TWENTY-FIVE DOLLARS IN CASH
for 125 Subscriptions.

TWENTY DOLLARS IN CASH
for 100 Subscriptions.

FIFTEEN DOLLARS IN CASH
for 75 Subscriptions.

TEN DOLLARS IN CASH
for 50 Subscriptions.

FIVE DOLLARS IN CASH
for 25 Subscriptions.

TWO DOLLARS IN CASH
and the AMERICAN ANALYST free for one year for 10 Subscriptions.

ONE DOLLAR IN CASH
and the AMERICAN ANALYST free for one year for 5 Subscriptions.

DIRECTIONS:

Send in the subscriptions as soon as received by Postal Note, Post Office Money Order or Check, payable to our order. Address your letter to ANALYST PUBLISHING COMPANY, 19 Park Place, New York City, stating that you wish to be entered on the premium list. You will then be credited with each subscription received. Notify us when you have furnished enough subscriptions to entitle you to the premium which you desire to obtain and a check will be mailed to you at once.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the 'Handy Binder' for binding the ANALYST, because of the following advantages: It is elegant in appearance, strong, durable and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

THE TRUE REASON.

WASH DAY MADE EASY

There is reason in everything, but not every reason given is true. About washing clothes, for instance, common sense and the chemistry of every-day life teach us that certain things must be done, while others may be left undone. Clothes must be made clean, sweet, pure and wholesome without either injuring the fabric or the hands of the laundress. If these objects can be attained, it does not matter as to what methods are used, and the soap or soap powder, no matter what it is called that will admit of the most varied methods of use is the handiest. Some things, however, are important to observe. The dirt and all soap must be entirely removed from the interstices of the clothes and all microbes must be destroyed. The only and easiest way to do this is by heating the water in which the clothes are contained to the boiling point. Of course, cold process and rosin soaps, as well as all inferior soaps will

not stand boiling water, consequently their manufacturers will advise against boiling. This is not in the purchasers' interest, but for their own selfish purposes. The boiling water, by constant self-agitation, is forced through the interstices of the fabrics, and thus cleanses them from dirt and disease-breeding microbes, as they can be cleansed in no other way—and without in any manner injuring the fabric. As there is no royal road to learning, neither is there any easier, surer or safer way of washing clothes clean and freeing them from all disease-breeding microbes or bacteria than by using PYLE'S PEARLINE, and to strictly follow the directions accompanying each package. Above all things, avoid any soap or soap powder that do not work to best advantage in hot water.

Subscriptions \$1 per year. Now is the time to subscribe.

CALIFORNIA
Fine Table Wines
From our Celebrated Orleans Vineyard.

Arpad Haraszthy & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER McGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

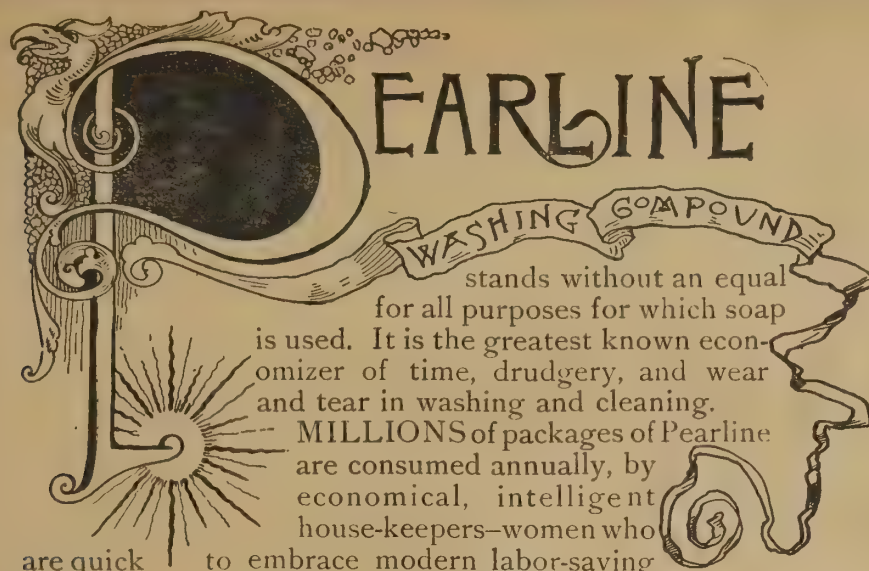
"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.



stands without an equal for all purposes for which soap is used. It is the greatest known economizer of time, drudgery, and wear and tear in washing and cleaning.

MILLIONS of packages of Pearline are consumed annually, by economical, intelligent house-keepers—women who

are quick to embrace modern labor-saving ideas; or, not doing the work themselves, are bright enough to supply their servants with Pearline. They get the best possible results, and have fewer back-aches and complaints. Their clothes and paint wear longer because they are not rubbed to pieces.

Beware of imitations which are being peddled from door to door. First-quality goods do not require such desperate methods to sell them. PEARLINE sells on its merits, and is manufactured only by JAMES PYLE, New York.

HANDY TO AMUSEMENTS AND SHOPPING.

When in New York stop at the Sturtevant House, Broadway, cor. 29th Street; it is finely furnished and the prices are reasonable. You won't regret it. Matthews & Pierson, Props.—*Bulletin*.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for **Dyspepsia, Diabetes, Debility & Children's Food**. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES**, Props., Watertown, N.Y.

LEA & PERRINS' SAUCE.

Lea & Perrins', the original and genuine Worcester-shire Sauce, has been before the public over a half a century. Like all popular favorites it has long been the standard of comparison and the pattern for counterfeiters who not being able to imitate its excellence offer to the public imitations in bottling, labels and style of putting up. They dare not counterfeit the signature of Lea & Perrins which is on the red label of every genuine bottle, and of which this is a facsimile.

Lea & Perrins

To be sure of obtaining the genuine article, see that the above signature is on the label.

LADIES' HOME COMPANION

A PRACTICAL HOUSEHOLD JOURNAL.

Now in its 16th year, well established, tried and true, as attested by a constituency of over Three Hundred Thousand Readers. The publishers, desirous of extending its influence into half a million homes, offer

3 Months Trial

for Only 10 Cents.

10 cents (Silver or Stamps) will secure **SIX NUMBERS** of this charming periodical (all different), each copy equal in size, quality and amount of reading matter, etc., to regular illustrated papers that cost 10 cents a copy or \$4.00 per year.

The **LADIES HOME COMPANION** stands without a peer in literary excellence, typographical beauty, suggestive illustrations and helpful advice for every department of home life. It is beautifully illustrated, and printed on fine, cream-tinted paper, and has a more brilliant array of contributors than ever before, consisting of

8 Regular Editors and Scores of Eminent Writers,

Whose facile pens will furnish **Short and Continued Stories** of absorbing interest, while all branches of household economy that can possibly come within the good housewife's province will be ably treated by experienced editors, and use, beauty and refined entertainment have due attention.

PRACTICAL HOUSEKEEPING. This department is a well-spring of valuable suggestions for every branch of housekeeping, including a large variety of tested recipes, and how to prepare them at the least expense, in dainty and appetizing forms; also, hints for table decorations, methods of work, etc., and much practical information, covering the entire range of household work, treated in such manner as to interest every housekeeper.

FANCY WORK. In these departments elegant illustrations and plain directions are given, showing how to make all kinds of fancy work, embroidery, needlework, crocheting and knitting; also suggestions for ornamenting Parlors, Bedrooms, Dining-rooms; arranging and Decorating Furniture, Curtains, etc., so that homes may be adorned with taste, and made attractive with little or no outlay. Instructions will also be given that will enable any one to make many useful and ornamental articles, such as Wall-pockets, Brackets, Fancy Leather-work, Work-boxes and Baskets, Fancy Work with Leaves, Flowers, Grasses, etc.



FASHIONS, OR, WHAT TO WEAR AND HOW TO MAKE IT. Artistic illustrations are always found in this department, with descriptions of the newest and latest styles and Novelties in Ladies' and Children's Dresses, Hats, Bonnets and other garments, with directions that enable one to dress well and economically. The very finest illustrations are used to make everything plain, so that ladies can make their own dresses, trim their own Hats and Bonnets, and dress themselves and their children with neatness and taste, in the prevailing styles. Each copy of the **Ladies Home Companion** is worth more than a year's subscription to every young lady and married woman, for this department alone.

MOTHERS find the portion devoted to them invaluable, and filled with a wide range of helpful suggestions obtained from practical experience relating to a mother's duties to her children, how they should be reared and cared for in sickness and in health; also suggestions and illustrations for all kinds of children's garments and many other necessary things.

FLOWERS. The Floral Department is a treasure to the amateur florist and all who love flowers, containing much of interest to those who raise flowers, whether for pleasure or profit.

OCCUPATIONS FOR WOMEN. Women can make money in many ways, and the opportunities for women to become self-supporting are constantly increasing. The **Ladies Home Companion** aims to keep women informed in reference to those things that wives, mothers and single women are doing to earn money, while in all its departments it is the most complete, most readable and

Most Fascinating Ladies' Paper Published.

TOILET.—Recipes and hints for care of hands, face, teeth, eyes, hair, etc., color and harmony in dress, etc.

ETIQUETTE at home and abroad, at the table and on the street, at public gatherings, etc.

CHILDREN'S CORNER sparkles with interesting sketches and splendid stories for wide-awake boys and girls, while an opportunity is given to develop their mental powers by solving puzzles, charades, enigmas, etc., for which prizes are offered.

DEPARTMENT.—Rules, usages and ceremonies of good society, letter writing, good manners, the art of conversing well, accomplishments, home training.

SEASONABLE BILLS OF FARE are given, with plain directions for the economical preparation of healthful, nourishing and palatable dishes, with hints for serving, arrangement of table, reception of guests, etc., etc. Also menu for parties, teas, receptions, Thanksgiving and Christmas dinners.

So popular have our publications become that more than a million people read them regularly.

Mention this paper and address **LADIES HOME COMPANION, Philadelphia, Pa.**



FOR THE THIRD TIME

In our history we have been forced to move into larger quarters to keep up with the demand from our New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade. We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the famous Custom-made Plymouth Rock 33 Pants, first, send 6 cents, for which we will mail you 20 samples self-measurement blanks, and linen tape measure, provided you MENTION THIS PAPER, or if you cannot wait for samples, tell us about the color preferred, with waist, inside leg, and hip measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. Remember, also, that we make to your order, Full Suits, \$13.25, Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES.—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.



MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides. It deserves to stand in the front rank of reconstructives, and the constructive by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were **MALTINE**, Corby's, Stacey & Co.'s Extract, and Keppler's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alternatives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepalin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST

FACIAL BLEMISHES.

The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Pitting, etc., and their treatment. Send 10 cts. for book of 128 pages, treating on 25 skin imperfections, 6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,

210 West 42d St., New York City, N.Y.
Inventor of Facial Appliances, Springs, etc.
Six Parloirs; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS
ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS.
GORDON & DILWORTH
563 & 565
TABLE DELICACIES
GREENWICH ST.
NEW YORK
OLIVES, CAPERS, MINCE, MEAT, PLUM PUDDING, &c.

CHOICE & DESSERTS
OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism
Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration
from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

2 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

75 William Street, N. Y.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	DIGEST AND ANALYST. PRICE.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		
Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.



ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.

Pure LAGER BEER

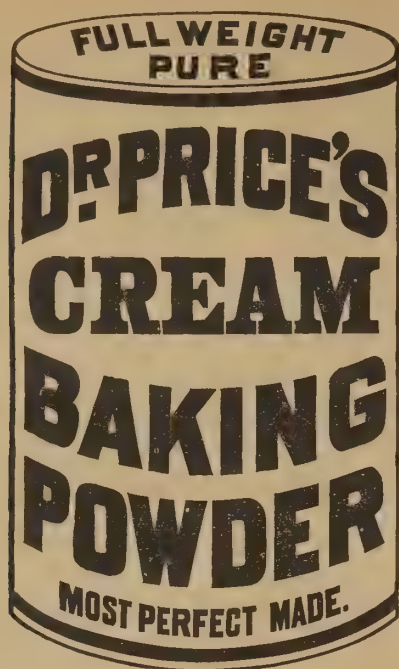
"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES

Beadleston & Woerz
291 W. 10th St New York.

Orders by Postal Card
promptly attended to.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONNIT, and PARK & TILFORD.

Established in London, 1831.

**DEAN'S PATENT
ARDENTER MUSTARD.**

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —
Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

COLDEN'S
ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."
LIQUID
BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. E.

Please Mention the AMERICAN ANALYST.

Subscriptions \$3 per year. Now is the time to subscribe.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 8.

NEW YORK, THURSDAY, FEBRUARY 21, 1889.

WHOLE No. 104

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - - \$1 per year.
Single Copies, - - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Cigarette, The Deadly.....	89
Domestic Dietetics.....	89
Editorials.....	85
To the Various State Legislatures; Concerning Lard; The Survival of the Unfittest; Pennsylvania and Pure Lard; An Electrified Menagerie; An Unreasoning Criti- cism; Sunny Italy.	
Harmless Agitators.....	87
Home Seeker, The.....	88
Medical Superstitions.....	87
Suppression of Good Beef.....	88
The Weekly Analyst.....	87
Wave Motor.....	88

TO THE VARIOUS STATE LEGISLATURES.

Although the AMERICAN ANALYST is published in New York, its readers are all over the Union, and on behalf of this widespread constituency we respectfully ask a hearing from the legislative bodies of the various States on the bills now before several of them, providing that all cattle intended for food shall be inspected alive at the place where the flesh is offered for sale. We ask you to vote against such a bill on the broad ground that the bill is a misrepresentation in its title as well as its language. It should be entitled "A bill for the protection of a few lazy men who would like to live at the expense of the many industrious citizens by agitating and sowing discontent among the people and creating local monopolies." The bald subterfuge that the bill is for the protection of the public health has been too long exploded by the opinions of the many learned and disinterested scientists who have investigated the matter, and it is an insult to your common sense for us to waste your time by arguing that point. The bill is not in the interest of our farmers, because the competition of the farmer is not from dressed beef, which this bill is really intended to exclude, but from the direct and very serious

competition of live stock cheaply raised in the West, which, in default of a market in Chicago, taken away, as it would be, by the proposed bill, would all be shipped East to ruin the Eastern cattle markets. The bill is not in the interest of the consumer, because it proposes to destroy competition, which has so far amply protected the Eastern consumer against local monopolies both in price and quality. The law is not in the interest of that interstate comity and friendship which has heretofore been maintained to our general advantage, but would inevitably lead to retaliation and a most bitter kind of commercial vendetta. The law further would cut off the butchers in all such parts of each State as by their contiguity to neighboring States derive a large business from those points from that business, which at some seasons is the bulk of their trade. In the absence of any good and sufficient reason for such a law, and owing to the manifest object to create a monopoly, it seems hardly necessary to urge the necessity for defeating this measure, conceived in iniquity and brought forth from the lowest and most unworthy motives—pure selfishness and utter disregard for the public weal.

CONCERNING LARD.

The self-styled butchers' organ of Allegheny, Pa., insists upon a little more information on the subject of lard, and on that pretext seems to have thought it necessary to misrepresent what we have said about dressed beef. We took occasion some time since to correct some misstatements of that sheet regarding dressed beef, and when it found that the facts were against it, resort was had to the old trick of evading the issue by accusing the AMERICAN ANALYST of suppressing information about bogus lard. The facts are very plain and easily understood. Lard, as originally made—the tried out hog's fat made by our grandmothers—was not sufficiently white to meet the supposed requirements of commerce, and would not stand transportation in warm weather or hot climates. To remedy these defects pure lard was bleached by chemical processes, and stearine was added to make it harder. Very soon these originally legitimate manipulations led to various adulterations, and finally some of these lard refiners, with only their profit in view, converted everything that was convertible into grease into lard, and a disgusting substance was the result. This had to be stopped, and the large refiners, finding a demand for clean, wholesome substances, to be known under the name of lard, without any increase in the cost, made a mixture of pure lard, clean cotton-seed oil and stearine, which was sold as refined lard. Every market report showed conclusively that Western steam lard was higher in price than refined lard, and no one with any sense could believe that Western steam lard could be refined without any cheaper addition and sold at a less price, and, so long as the article was clean and wholesome and satisfied the public demand, no one could reasonably find fault. The AMERICAN ANALYST has always maintained that all food products should be sold under their proper name and so

labelled. Every merchant, grocer, and the greater part of the public knew perfectly well what refined lard was, and so no harm was done. But we go further and claim that this new method of handling lard has to a very great extent ended the disgusting practices of small refiners and back-street butchers of putting the debris, scraps, unsaleable pork and refuse generally of their stalls into the lard tank, and selling the product for pure lard. If any more questions of this kind are propounded by our hypercritical cotemporaries, they will be answered with equal candor and promptness, even if the answers should not be quite as palatable as expected.

THE SURVIVAL OF THE UNFITTEST.

The *Sanitary News* of Chicago, in its issue of the 9th instant, discusses briefly a question recently propounded to the medical profession by an English journal, "Do you think the great advance in the healing art is responsible for keeping alive much weak life that will in time affect the whole race injuriously?" The proposition is certainly set before us with the brutal directness characteristic of scientific inquiry, as distinguished from ordinary social problems which are expected to display some approach to humane suggestion. Furthermore, as the paper referred to very correctly says, the question is not a practical one, but relates rather to casuistry than to science. It is repugnant to every principle of ethics. The relief of suffering and the preservation of life, in whatever aspect it presents itself to our sympathies, are the primary dictates of ordinary humanity." "Weak life" is entitled to protection on the same terms as the strongest, and the "healing art" that interests itself keeping it alive would be a murderous trade if it allowed that interest to falter. The proposition of the British journalist is founded on the thoroughly English notion that physical culture should be the highest object of human endeavor. But the enlightened common sense of the present age recognizes and demands something higher of mankind than mere physical culture, in intellectual training which tends to elevate "weak life" to a higher degree in the scale of social value than is attainable by mere muscular superiority. As to the influence on the race, that is a consideration which, except in extreme and abnormal cases, may safely be left to the natural processes of evolution. The duty of society is to give the most absolute protection to every one of its members, giving the preference, in fact, if any distinction is to be made, to those whose "weakness" entitles them to its special consideration. A medical man, or a school of medical men, that should take the opposite view of this subject would be acting in opposition to reason, science and the plainest dictates of humanity. It is not impossible, however, that at some near day some system of pre-matrimonial requirement may be adopted, which will enable the State to interpose its authority for the prevention of the "injurious" tendencies predicated of the "weak life" referred to in the question we have been considering.

PENNSYLVANIA AND PURE FOOD.

A bill for the prevention of adulteration of food has been introduced in the House of Representatives of Pennsylvania. The bill provides for the establishment of a chemical laboratory in all boroughs and cities having Boards of Health. The laboratory is to be conducted under rules formulated by the State Board of Health, and the borough and city boards are to appoint for the enforcement of the act such chemists, inspectors and clerks as are recommended as necessary by the State Board. It is provided that the boroughs and cities shall pay the expenses. No person is to manufacture or sell, or offer for sale, any article of food or drugs adulterated within the meaning of the act. The penalty is to be a fine or imprisonment or both. The bill does not apply to cases in which any ingredient not injurious to health is added to the food or drug because of the necessity of such addition in preparing articles of commerce, and not fraudulently to increase the bulk, weight or measure, or to conceal inferior quality. It is also provided that no person, with the intent of selling in the altered state, without notice, shall abstract from an article of food or drug or any part of it, so as to effect fraudulently or injuriously its quality, substance or nature; nor shall any article so altered be fraudulently sold. Under the penalty mentioned, no person shall fraudulently sell any compound article of food or drugs not composed of the ingredients demanded by the purchaser. The inspectors are required to inspect all breweries, distilleries, bakeries, factories, dairies, stores and markets where food or medicine is prepared or offered for sale, and secure by purchase, if necessary, daily, excepting legal holidays, samples of articles likely to be adulterated. These samples shall be submitted to the chemists for examination and analysis. Violations of the act are to be reported by the Health Boards to the proper prosecuting officers. The Health Boards are directed to act in like manner, upon ascertaining that the complaint of any citizen about food or drugs is well founded. All fines and penalties are to go into the respective city and borough treasuries.

AN ELECTRIFIED MENAGERIE.

The thanks of the scientific community of the country are due to Barnum & Bailey for their generosity last week in putting their great menagerie at the disposal of a party of savants, headed by Drs. A. W. Jackson and F. G. Welch of this city. In view of the approaching substitution of "electriciding" for hanging, the electrical experts have long desired to determine the electric irritability and resistance of the higher animals. Mr. Edison had made a few experiments in the premises at Menlo Park, and the Medico-Legal Society of New York last fall made a brilliant and valuable study of the application of Faradism to dogs of different kinds. These, however, gave very vague and indefinite ideas as to the superior types of mammalia, and threw little or no light upon man. The experiments conducted by Dr. Jackson

BURNETT'S

PERFECTLY
PURE
Standard — Flavoring
HIGHLY
CONCENTRATED
EXTRACTS

and his associates were marked by extreme simplicity on the one hand and the greatest care and skill on the other. The electric force was supplied by an improved Groenbeck battery of 42 Leclanche cells—one of the best and most reliable instruments known. The resistance box was the one now used by all the progressive telephone companies and with an index of 100,000 ohms. Before using, the battery was carefully cleaned and adjusted, the cells refilled, and the action tested and standardized. The resistance box was also tested and supplied with new plungers. In determining the resistance of the animals, different systems were employed according to the species experimented upon. With wet-coated animals, such as the seal, sea lion and hippopotamus, pure copper wires were fastened close around the neck and around the hind flippers or hind legs. With dry-coated animals, such as monkeys, carnivora, elephants and ruminants, copper electrodes, covered with fine wet sponges, were employed. To prevent leakage the wires were suspended on glass when passing through the air, and held in silk handkerchiefs when applied to the animals. The resistance of the various animals was found to be as follows:

Seal (wet).....	No result.
	Ohms.
Seal (dry).....	5,800
Antelopes.....	7,400
Gnu.....	11,000
Eland.....	7,280
Oryx.....	7,010
Nylghau.....	5,090
Musk ox.....	6,840
Thibet cow.....	7,900
Baboon.....	8,000
Mandrill.....	8,240
Blue monkey.....	7,050
Ape.....	6,480
Yellow monkey.....	5,010
Dog.....	8,050
Fox.....	8,900
Wolf.....	8,420
Lion.....	10,100
Tiger.....	11,050
Panther.....	9,800
Leopard.....	9,560
Elephant.....	11,030
" (side to side).....	16,200
" (trunk to tail).....	14,100
" (mouth to tail).....	12,050
Rhinoceros.....	13,000
Hippopotamus (wet).....	No result.
Sea lion (wet).....	" "

In point of irritability, the least sensitive were the

THE superiority of these Extracts consists in their PERFECT PURITY AND GREAT STRENGTH.

There is no subject which should more engross attention than the purity of the preparations which are used in flavoring the various compounds prepared for the human stomach.

They are not only true to their names, but are prepared from fruits of the best quality, and so highly concentrated that a small quantity only need be used.

JOSEPH BURNETT & CO., Boston, Mass.

gramnivora and the most the anthropoid apes. The carnivora occupied a middle place. A curious incident in the affair was the effect of electricity upon a seal. When experimented upon it was sick and miserable, suffering from what seemed to be rheumatism and bronchitis. Twenty-four hours after it showed every sign of convalescence, and forty-eight hours after it was well and hearty. The case speaks volumes for our electro-therapeutic friends. This brief summary gives a fair idea of the excellent work done by Dr. Jackson and his associates. Considering the risk run in exposing a half-million dollars' worth of animals to the tender mercies of enthusiastic scientists, we think that Barnum & Bailey deserve especial recognition and gratitude.

AN UNREASONING CRITICISM.

We seem to have fallen under the censure of the *Stockgrower*, of Las Vegas, New Mexico, for insisting upon having the Eastern markets supplied with only the best quality of beef. Our contemporary, lacking argument, descends to innuendo, and suggests that our editorial utterances are only a reflection of the influence of our advertising columns. Unluckily for its argument, and, by the way, for ourselves also, the houses which the *Stockgrower* names as thus casting their shadows from our back pages throughout the sheet, do not advertise with us, though it would undoubtedly be to their advantage to do so. We have searched in vain through the advertising pages of our Las Vegas contemporary to find some suggestion of actuating influences there, but perhaps that sheet is trying the reverse experiment—endeavoring to conciliate advertising patronage by frantic editorial utterances. Of the two plans we prefer the one attributed to us.

SUNNY ITALY.

According to a published statement of Professor Ruata, of Perugia, there are annually in Italy nearly 300,000 cases of typhoid fever, of which number 27,000 prove fatal. One-third of the persons in Italy who reach the age of forty-five have the fever, and in some districts more than three per cent. of the population die from this one cause.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it.

Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

MEDICAL SUPERSTITIONS.

SOME FRENCH VAGARIES OF THE OLDEN TIMES.

A French writer named Challamel has recently issued a book entitled "A Bird's Eye View of France in the Middle Ages," in which he relates a number of medical superstitions current in France in the middle ages, most of which are said to prevail at the present time also. In those days the French seem to have had unlimited faith in preservatives against diseases and infallible means of cure, and it may be added that they were not alone in their trustfulness. The following are some of the superstitious practices mentioned: To cure fever, they abstained from both flesh and eggs on Easter and on other high festivals; they caused a cabbage stolen for the purpose from a neighboring garden to be dried on a pot-hook; they wore one of a dead man's bones as an amulet; they inclosed a green frog in a bag, and hung it to the sick person's neck; they ate the first Easter daisy that they found; and they received the benediction in three different parishes on the same Sunday. While telling their beads, they searched for a mullein-stalk and threw it to the winds; they passed through the cleft of a tree? they caused a horse to drink a bucketful of water, and then drank after him; they crossed a procession between the cross and the banner; they drank holy water on Easter Eve or on the eve of Pentecost; they twined the hems of a shroud about their arms or neck; and they drank three times of a mixture of water from three wells in a new pot. The people of Province had their fisheries blessed on a certain saint's day. On Assumption Day the people of Perigord went before sunrise, walking backward, to gather nine sprigs of centaury, which they fastened to a feverish person's neck, after which they gave him an infusion of the herb to drink. A toad choked to death on the eve of St. John's Day had the same virtue. It was common for a feverish patient to rise early in the morning and walk backward in a meadow, plucking a handful of herbs without turning or looking at them, then throw them behind him and keep on in his course without turning back; the result of this was that the fever attacked the devil. Another practice was for the fevered person to drop a piece of money in a public place, with some mummary; whoever picked up the coin took the fever. The waters of several fountains cured fevers, and in particular the fountains of Krignac triumphed over tertians. To overcome fear, one had only to stick pins in a dead man's shoe, carry a wolf's tooth or eye about, or ride a bear. To banish rheumatism, the sick person caused a miller or his wife to strike three blows with the hammer, saying: *In nomine Patris*, etc. Bathing the painful parts with the water of the fountain of Monies caused the pain to cease. In Landes, rheumatics and paralytics were

cured of their ills by getting into certain openings, called *etrines*, in the pillars of a church. In Brittany a child was protected against all diseases by having its shirt put on damp. The people of Perigord carefully preserved the ashes and embers of the Yule log, which cured the maladies of both man and beast. In some districts the butter made in May was kept as a vulnerary. Among the peasants of the Montagne-Noire a white-handled knife was an infallible remedy for colic. Epilepsy was cured by attaching a crucifix nail to the patient's arm or by causing him to wear a silver ring or a medal bearing the names Gaspar, Melchior, and Balthasar. For warts there was a very simple specific—rubbing them with a wad of hair or of broom, and wrapping chick-peas or pebbles in a rag, which the person was to throw behind him on a road. Whoever had toothache touched the aching tooth with a dead person's tooth.

THE WEEKLY ANALYST.

WHAT THE PRESS SAYS ABOUT OUR NEW DEPARTURE.

(From the *Hotel Mail*, Feb. 9.)

At this period, when centennial celebrations are especially in vogue, we take pleasure in noticing the one hundredth issue of the *AMERICAN ANALYST*. It has lately changed from a semi-monthly to a weekly but the subscription price remains the same, \$1 a year.

FULFILLING A USEFUL FUNCTION.

(From the *N. Y. Journalist*, Feb. 9.)

The *AMERICAN ANALYST* of this city celebrated its fifth birthday the first of last month by becoming a weekly instead of a semi-monthly publication. The change is much to the advantage of its patrons, both readers and advertisers, especially as the price of subscription remains the same as before. In its efforts to teach the housekeeper the character of foods, pharmaceutical preparations, etc., and the science of domestic economy in general, the *ANALYST* occupies a field peculiarly its own. Household education of this practical kind, is the most useful function of popular science, for human prosperity is largely dependent upon the comforts of the Home. The housewife who desires to become familiar with the inner facts of her department, from the value of the several cuts of beef to the chemistry of bread making, or the science of sweeping a room, will find just what she needs in the *AMERICAN ANALYST*; and we are glad to learn that the new departure above referred to is meeting with a gratifying recognition.

HARMLESS AGITATORS.

THE RETAIL GROCERS VERSUS THE PHILADELPHIA AMATEURS.

The *Merchants' Review* of this city said under date of Feb. 8:

A local daily says: "The National Pure Food Association has met again in annual convention at Washington." The interpretation of the foregoing is simply this: The Amerling crowd that sought to force upon the retail grocery trade a most unjust and impracticable pure food bill and were afterwards severely sat upon by the association, have assumed a title to which they have no right and played a trick upon several unsuspecting newspaper reporters. The National Pure Food Association has nearly a hundred members, but it is doubtful if the Amerling call brought together a half dozen people. When the chairman's and secretary's positions were filled and a sergeant-at-arms appointed, what a sea of faces must have met the modest chairman as he rose to call the convention to order. Whether the affair was instigated in order to throw odium upon the simon-pure association, we do not know, but it has that appearance. The idea that the convention will have the slightest effect on Congressional action is preposterous, but the temporary notoriety enjoyed by those engaged in it will probably more

than recompense them for their failure, while it will act as an antidote for the contempt with which every person interested in the movement must perforce regard them.

The *Merchants' Mail* of Albany of the same date says in reference to the retail grocer's anti-adulteration organization:

The executive committee of the Pure Food Association have held a meeting and decided that all the present officers should serve for another year. It will be seen from this that the *thirty-five* retailers who are members, are not to be given another chance for a "beer garden" scene at Washington, or in the election of officers for the year 1889, to preside over this, the most important movement, that has ever affected the grocery trade (?). The *thirty-five* retailers and the few other members it would seem are to have no part in a movement that is—say in 1880 to go through this country like a dose of salts.

And the *Retail Grocers' Advocate* of Feb. 9 says, after a weak laudation of the ineffective Philadelphia "crusaders."

The Agricultural Department has been hampered in its efforts to carry on its work in the investigation of food adulterations by a lack of funds. This lack of money has been the chief cause of delay in the publication of the results of the Department's work upon lard and imitations thereof. Consequently the House Committee on Agriculture has included in the regular Agricultural Appropriation bill of this year an item appropriating \$5,000 for carrying on the investigations. Last year the city got no special appropriation. The increased liberality of Congress will, it is expected, enable the work to be carried on more vigorously.

SEVERE ON THE CRUSADER.

The *Grocers' Criterion*, referring to the Pure Food Bill approved by the National Pure Food Association, says: "Mr. H. Wharton Amerling does not think that the bill will come up for consideration during the present session, but hopes that it will be considered in the next." It is very kind of Mr. H. W. A. to trouble himself about the matter, but couldn't he give the public some later news, as for instance, that the Dutch have captured Holland. His statement is rather mossy, and besides, are there half a dozen citizens of the United States that care for his opinion on the subject of food adulteration or any other?

PAPER LEATHER.—During the last twelve months, says the *Revue des Cuirs*, a paper leather, to imitate calfskin, has made its appearance and seems likely to play an important part in the manufacture of portfolios and albums. It can be used for a variety of purposes, for toilet articles, bookbinding, etc. Real calf is expensive, but of great durability. This imitation calf is cheap, although it can hardly be expected to wear well.

MELTED IRON AND WATER.—If a ladle of iron is accidentally spilled, it will of course almost inevitably do some damage or injure some one. But the chances for the man getting away from it are fairly good unless water is encountered, when there is immediately such a violent explosion and scattering of hot metal that there is very little chance for the escape of any one without injury. A combination of melted iron and water is as dangerous as gunpowder, and iron-workers should always take pains to prevent such a combination being possible.

GELATINE IN VARNISH.—A varnish made with alcohol will get dull and spongy by the evaporation of the alcohol, which leaves water in the varnish, as all commercial alcohol contains water. It is, therefore, says the *Carraffe Monthly*, advisable to take a thin sheet of gelatine, cut it into strips and put it into the varnish; it will absorb in the thin sheet most of the water, and the varnish can be used clear and bright till the last drop. The gelatine will get quite soft. It can then be taken out and used again.

THE CAPITAL.—The capital of the United States has been located at different times at the following places: At Philadelphia from Sept. 5, 1774, until Dec., 1776; at Baltimore from Dec. 20, 1776, to March, 1777; at Philadelphia, from March 4, 1777, to Sept., 1877; at Lancaster, Pa., from Sept. 27, 1777, to Sept. 30, 1777; at York, Pa., from Sept. 30, 1777, to July, 1778; at Philadelphia, from July 2, 1778, to June 30, 1783; at Princeton, N. J., June 30, 1783, to Nov. 20, 1783; Annapolis, Md., Nov. 26, 1783, to Nov. 30, 1784; Trenton from Nov., 1784, to Jan., 1785; New York from Jan. 11, 1785, to 1790; then the seat of government was removed to Philadelphia where it remained until 1800, since which time it has been at Washington.

THE SUPPRESSION OF GOOD BEEF.

THE EASTERN PRESS CONDEMNNS THE EFFORT TO EXCLUDE WESTERN BEEF.

(From the *New York Times*, February 12.)

A THIN PRETEXT.

The Butchers' bill for the suppression of the dressed beef trade has been rejected by the Ohio Senate and the Pennsylvania House of Representatives, although eighty members of the last named body voted for it. But it appears that ten States and Territories have responded to a resolution of the Kansas legislature relating to the holding of a convention for the adoption of a bill that shall be supported simultaneously in several legislatures for the overthrow of the combination of slaughterers and shippers in Chicago and Kansas City. It seems to us that the opponents of these slaughterers and shippers should first procure by proper authority proof that there is such a combination. There have been and are now indications that a combination exists, but the proof should be obtained by a Congressional committee. The committee appointed last year to make an inquiry does not seem to have covered the ground. And if it should appear beyond question that a combination exists, it would be foolish to proceed against it by means of an inspection bill designed to prevent the moving of beef across State lines and put forward on the thin pretext that dressed beef is diseased.

(From the *New York Herald*, February 14.)

LIVE AND DEAD BEEF.

NEW YORK, Feb. 12, 1889.

To the Editor of the *Herald*:

As a butcher doing a large business, as well in New York as in the surrounding parts of New Jersey and Connecticut, I desire to express to you my heartfelt thanks for your very *apropos* editorial entitled "Don't Reduce Competition by Law" in this morning's *Herald*. As usual, the *Herald* takes the common sense view of the subject. Allow me, however, to call your attention to two important facts bearing on the subject. The first is that neither the State of New York, New Jersey nor Connecticut can raise enough beef to supply the legitimate demand in those States, and to the farmers in those States it may be said that their danger of competition is not from dressed beef, but from live beef.

The second fact is that a State inspection law passed in New York will not be alone, but will be quickly followed by similar laws in New Jersey and Connecticut, and then what is to become of New York butchers' trade in Connecticut and New Jersey? That knife cuts both ways.

Please, Mr. Editor, save us from such an iniquitous law.

Very respectfully yours,

CLEAVER.

(From the *Albany Merchants' Mail*, February 15.)

THE NEW YORK BILL DENOUNCED.

Ninety per cent. of the butchers to-day sell what is called Chicago dressed beef, and their reasons for so doing, it strikes us, are quite logical. In every city of any size there are agencies for Western dressed beef, and the local butcher can order every day about the quantity he thinks he will need. In this way he saves a considerable sum of money, especially in the summer time, in his ice bill, as he has but little to carry over from day to day. In case his supply for the day's business runs short, in this age of telephones it is only a few moments before he can have a fresh supply upon his counter. As to the wholesomeness of what is called Chicago dressed beef and home dressed, many eminent physicians have declared that beef killed several days is much healthier than that fresh killed. There was a time when there was no such thing as Chicago dressed beef, and our local butchers know what West Albany was then. They were under the control of as grasping a monopoly as ever existed. A blockade or severe snowstorm, or accident, and the ring would

get together, and up went the price of beef. If complaints were made, as was often done, the reply was invariably: What are you going to do about it? Cattle thoroughly starved out and famishing for water after having been on the road days and days, would arrive here and were driven direct to the slaughter house. There was no settled price in those days for meat, as all depended upon the West Albany ring. Since Chicago dressed beef made its appearance, it has acted as a leveler in keeping the price of home dressed beef down, and we believe we do not err when we say that the price has never reached the old-time prices as when the West Albany ring held sway. Prohibit Chicago dressed beef from coming into this State, and we will return to the days of a worse monopoly than the Chicago men have now. It will mean to the poor as well as the rich, higher prices, and we are inclined to believe no better quality of meat than is now being served. Doubtless there are some evils connected with the Chicago dressed beef that could be remedied without prohibiting its sale, and we believe the promoters of this bill are counting without their host when they count upon the retail trade coming to our legislature to ask the passage of such a bill as is contemplated.

WAVE MOTOR.

A NATURAL FORCE PUMP THAT LIFTS WATER 500 FEET.

Many a visitor to the Cliff House has wondered what the spidery-looking contrivance is for that they have seen a few hundred yards up the beach at Point Lobos. If they will go up to it now and make inquiries, for it is at last in working order, they will find that it is a machine for turning the rhythmical beating of the waves against the rocks into power that can be utilized for working mills and manufactories, and driving cable cars and putting salt water baths into city houses and sprinkling the streets and flushing the sewers. Though the result of supplying a power that can take the place of high-priced coal is so important the machinery by which it is accomplished is simple enough. One wonders as soon as he sees it why somebody didn't think of it ages ago. All that there is of it is a sort of developed suction pump, in which the power is supplied by the waves, a reservoir and water-wheels suspended from big iron uprights is a framework, across the lower part of which is fastened heavy planking. This planking presents a face to the waves about six feet by twelve, and its framework is so arranged that it can be raised or lowered as the tide rises and falls. The waves dashing against this move it in iron grooves backward and forward, and its motion is communicated through some other machinery to a twelve-inch piston, so that a movement of thirty-two feet by the framework causes a nine-foot movement of the piston. This pump connects with a long suction pipe, the other end of which is under water. This pipe is fitted with a screen to keep out sand and debris. An air chamber, fourteen feet high, keeps the pressure in the pump steady, and forces a constant stream of water through the big iron pipe that clambers up the cliff and over a hill to a height of 150 feet. This is as high as the pipe goes now, but the force is sufficient to pump the water a height of 500 feet above the sea level. The remainder of the plan is a huge reservoir at that height and a system of water-wheels, which would supply power limited only by the number of motors in use. After the water has passed over the water-wheels, it is the idea of the company that it could be brought into the city and used for private baths, street sprinkling, sewer flushing and other things. At present the motor only is completed, and the water pumped up is allowed to run off in the ground. Only one piston has been put in as yet, but this pumps at the rate of three barrels per minute, and the motor could drive also four others of equal capacity. The force, of course, increases as the tide rises and as the wind sets in toward the land. Ordinarily the motor does not work at low tide, but will run usually from

eighteen to twenty hours per day, and, under favoring conditions of wind and tide, will work steadily the whole twenty-four. The motor was begun three years ago, but unfortunate circumstances have delayed its completion. Severe storms have several times thrown the work back, and when the dynamite-loaded schooner exploded off Point Lobos the rock on which it was being built was split in two. It has only just been completed, but so far has worked with success.—*San Francisco Examiner*.

"THE HOME SEEKER."

A TRUSTWORTHY GUIDE FOR THE POOR MAN SEEKING TO OWN A HOME.

One of the most noteworthy movements of the present period is the rapid growth of building associations, through whose beneficent agency persons of moderate means are enabled to purchase and own homes for their families. In this city these associations have increased in number from only three or four a year ago to forty-one, while Brooklyn has twenty-four and Jersey City twenty-eight. The joint membership of the home-getters in these three sister cities is considerably over thirty thousand, and the money accumulated in small weekly assessments for the purchase of homes is upwards of \$60,000 a week. So large an interest sustained by such an extensive membership, and representing such a rapid accumulation of capital, challenges thoughtful consideration as a potent factor in the social progress of the metropolis. It is with real satisfaction, therefore, that we welcome the advent of a new journal bearing the title at the head of this article, whose special function is to represent the interests of this great home-making enterprise. The *Home Seeker* enters upon existence as the accredited official organ of the building-loan associations of the metropolitan district. The best assurance of the intelligent manner in which their affairs will be discussed is afforded by the fact that its editorial management is conducted by Mr. Chas. O'C. Hennessy, President of the *Daily News* Building and Loan Association, Secretary of the New York State League, and recognized as one of the best informed students of this special subject in this community. The subjoined extract from his salutatory editorial will give a fair idea of the scope of the new journal, whose bi-monthly appearance will be pleasantly greeted by thousands of heads of families and seekers of independent homes:

"We're here to help along and to speak for the building association movement, believing that its possibilities, great as they seem now, haven't yet begun to dawn upon the popular mind. The great metropolitan newspapers haven't yet awakened to the fact that there is a force at work around them that is creating home-owners at the rate of a thousand a year. We say the possibilities of this movement are not realized, for the surroundings of New York City are such as to make it probable that it will yet become the metropolis of the world. And building associations will be the agencies to make it such. A glance at the map printed on another page will show the possibilities of development toward the suburbs. Cheap homes may not be had in the big city, where the pressure of population makes land values high, but cheap homes can be had in the suburbs of Jersey, Westchester, Staten Island and Long Island. A wonderful system of quick travel by rail and water has solved the problems of time and distance, and the man of poor or moderate means may live out of town as conveniently to his business as if he lived in Harlem. The *Home Seeker* will be not only a purveyor of the latest facts, figures and fancies of interest to building association members, but it will endeavor to be in fact as well as in name, an honest seeker of homes, and a bulletin of the best offers that people who have homes to sell may make from time to time. It can be depended upon, also, to deal unsparingly with wild-cat schemes to foist worthless property upon the building association market."

BLOBSON—You seem to have a very bad cold?
Cumpsey—Yes. Blobson—What are you doing for it?
Cumpsey—Coughing.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

February.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose.

FISH.—Bass, cod, crabs, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

STEWED OYSTERS.—One quart of oysters, one pint of milk; butter, salt, pepper. Rinse the oysters; drain them. Melt a heaping tablespoonful of butter in a saucepan, add the milk, and, when it comes to a boil, put in the oysters. Cook only until the edges curl, then remove from fire and season. Serve with toast or crackers.

ROASTED SALMON.—Chose a fine large salmon; take a large piece from the middle, dredge well with flour and baste it with butter while roasting. Serve with slices of lemon.

LOBSTER CROQUETTES.—Mince the flesh of a lobster, season with salt, spices and a little cayenne. Melt a piece of butter in a saucepan, mix with it a tablespoonful of flour, then the lobster and some chopped parsley; moisten with a little stock, until the mixture looks like minced veal; then stir into it off the fire a couple of yolks of eggs, and put it by to get cold. When nearly so, shape it into the form of corks, egg them, and roll them in baked bread crumbs. After the lapse of an hour, egg and bread-crumbs them again, taking care to preserve the shape. After a little time, fry them a nice color in hot lard.

HOARHOUND CANDY.—Boil two ounces of dried hoarhound in a pint and a half of water for about half an hour; strain and add three and a half pounds of brown sugar; boil over a hot fire until sufficiently hard; pour out in flat, well greased tins and mark into sticks or small squares with a knife as soon as cool enough to retain its shape.

ORANGE CAKE.—Two cupfuls of sugar and half a cupful of butter stirred to a cream; one cupful of sweet milk, three eggs well beaten, three cupfuls of flour, with two teaspoonfuls of Horsford's baking powder. Bake in sheets.

FROSTING.—Whites of two eggs; make a frosting as for other cakes; save out enough to frost the top of the cake; add to the rest the juice and grated rind of a large orange and half the juice of one lemon spread between the layers.

COLD BUTTER SAUCE.—Butter, half a cupful; sugar, two cupfuls; two eggs, flavoring. Beat all together, and flavor with lemon or orange, or spice, to taste.

BROILED POTATOES.—Parboil the potatoes without peeling; let them cool; peel, cut in thick slices and broil on a wire gridiron till they are brown on both sides. Season with pepper and salt and melted butter. Serve very hot.

Subscriptions \$1 per year. Now is the time to subscribe.

THE DEADLY CIGARETTE.

SOME MORE RESULTS OF CIGARETTE SMOKING.

The following despatches to the daily papers of a single date, tell their own story without need of comment:

Carlisle, Pa. Feb. 11.—Edward D. Crall, business manager of the *Morning Call*, at Harrisburg, died last evening at his father's house on South Pitt street, of blood-poisoning caused by excessive smoking of cigarettes. He was in his twenty-third year.

Middletown, N. Y., Feb. 11.—Johnnie Powers, eleven years old, was taken to the County Asylum at Orange Farm to-day a raving maniac, from the effects of excessive cigarette-smoking. Symptoms of mania first developed Saturday, and were of a spasmodic nature. Soon the boy became very violent, striking at people, tearing his clothes and trying to injure himself. The doctors think the case hopeless.

EARLY FRUIT.—The first hot-house strawberries reached New York December 20 and sold for 50 cents each.

A NEW SCREW.—A screw which is half nail is a new invention. Its holding power in white pine, they say, is 333 pounds, against the 298 pounds of the present screw.

WAGES IN JAPAN.—In Japan the wages of carpenters are from 30 to 45 cents a day; wood carvers, 35 to 53 cents; paper hangers, 23 to 45 cents; stone cutters, 45 to 53 cents; blacksmiths, 23 to 38 cents; gardeners, 19 to 38 cents; day laborers, 15 to 23 cents. The working man pays 40 cents per month rent for a house of one room, \$2.25 month for food, and \$3.75 year for clothes.

DEFINITIONS.—Little Bub (at dinner)—Pop, what does "faith, hope, trust" mean?

Pop—Your ma bought this pie at the baker's on "trust." Can you understand that?

"Yes, indeed."

"I hope there'll be enough to go around. Understand that?"

"O, yes."

"Well, we'll need faith to enjoy it. It's mince."—*New York Weekly*.

ORANGES IN BULK.—Oranges are now being moved from Florida in bulk, the same as potatoes. They are piled about three feet high and paper is run around the sides of the car, while the floor is covered with fine marsh grass. Numerous carloads of the fruit thus packed have reached Baltimore. The *Sun* reports that several varieties came in a car, partitions of thin board being put up. The last car to Baltimore contained 42,000 oranges, and had been six days making the trip. The freight on the car was \$155.

AIR IN EXPLOSION.—Since the recent explosion of a petroleum vessel in Calais Harbor, experiments have been made to determine what proportion of air must be present to form an explosive mixture. With 1 of petroleum vapor to 5 of air no explosion occurs, but when the air is to vapor as 6 to 1, the mixture is feebly explosive and becomes violently so when there is 1 part of petroleum vapor to from 7 to 9 of air. With 12 parts of air it still explodes violently, but with 16 parts it is but feebly explosive, and with 20 parts of air will not usually explode at all.

TO PREVENT CORROSION IN BOILERS.—An English electrician has invented a material, which he calls *alterion*, for the prevention of corrosion in boilers. The interior is coated with this, and currents of electricity are passed through the boiler and from time to time reversed. The formation of the scale is prevented by a layer of hydrogen gas, which is deposited upon the inner surface of the boiler. The reversed currents re-form the hydrogen into pure water, a thin layer of pure water being thus kept all around the boiler.

ELECTRIC LIGHTING OF STAGES.—Electricity is being applied with some success to the lighting of omnibuses in London. The accumulators are placed in a small box beneath the body of the vehicle. The lamp stands in a frame, and is so arranged that, by being moved a little

towards right or left, it is lighted or extinguished. The frame is connected with the accumulator by a small hidden wire. One charge of the battery is sufficient for two days. The invention is in practical use on some of the London omnibus lines, and it is said to work excellently.

COTTON STATISTICS.—The number of cotton spindles in England during 1887 was 42,740,000; in the rest of Europe 23,180,000; in America 13,500,000; in India 2,240,000; making a total of 81,840,000. The quantity of cotton consumed in England was 1,514,521,000 pounds weight; in the rest of Europe 1,459,119,000 pounds; in America 944,758,000 pounds; in India 300,000,000. It will be seen by these figures that England has more than half the spindles in the world and uses more than half the cotton worked by them.

A GREAT EMPIRE.—The Queen of Great Britain is now sovereign over a continent, 100 peninsulas, 500 promontories, 1,000 lakes, 2,000 rivers and 10,000 islands. She waves her hand and 900,000 warriors march to battle to conquer or die. She bends her head and at the signal 1,000 ships of war and 100,000 sailors perform her bidding on the ocean. She walks upon the earth and 300,000,000 human beings feel the least pressure of her foot. The Assyrian Empire was not so populous. The Persian Empire was not so powerful. The Carthaginian Empire was not so much dreaded. The Spanish Empire was not so widely diffused. The Roman power was weak in comparison, and Greece was as a small village.

A VALUABLE EXPLOSIVE.—The new German explosive prepared by Schoeneweg, in its property of flamelessness when exploded, is claimed to be of special value as a substitute for ordinary blasting powder and other explosives in fiery coal mines. It consists of nitrated hydro-carbons mixed with an oxidizing agent, such as chlorate of potash and some organic salt, which renders the mixture flameless. The substance is not hygroscopic, is of a bright yellow color, and can be kept for any length of time without undergoing any change, nor can it be exploded by a flame or a hot substance, but only by a detonating cap. Various experiments made with this compound appear to prove that it possesses the valuable advantages claimed for it by the inventor, and that it is a great acquisition in those mines where an explosive of this nature will insure safety. Its power is found to be equal to that of No. 1 dynamite, while the cost of manufacturing the new substance is less than the latter.

ON SARSAPARILLA.

Sarsaparilla has been known from time immemorial. Long before Cortez and Pizarro invaded the lands of the Aztecs and Incas, it was a standard remedy for every disease. The doctors and medicine men of those races used it in every form. A tea made from the roots and leaves was employed as a febrifuge and mild aperient; a poultice made from its pounded fibres was used for wounds, abrasions, bruises, tumors and ulcers; a stew of all the parts of the herb was utilized for every blood disease. The *conquistadores* possessed great intelligence, and speedily saw the value of the medicine which their enemies employed. Frey Ildefonso was one of the first to appreciate the value of the wonderful herb and sent a large quantity back to Spain, where it was used by the monks and physicians. The success it achieved in Spain made it famous throughout Europe, so that in 1555 A. D. it commanded about a dollar an ounce in Paris, Rome and Naples. From that time until to-day sarsaparilla has never lost its popularity. In 1850, as chemistry began its explorations in the organic world, sarsaparilla became one of the first subjects of scientific study. The savants then ascertained that the virtue of the herb lay in a principle which they termed *sarsaparillin*; that this delicate alkaloid was very unstable, decomposing and disappearing when the roots were exposed too long a time to the open air or submitted to too high a temperature; that the alkaloid was at a maximum when the herb just reached its full maturity and grew less and less hereafter, and that the fresh rootlets were of little or no value. These discoveries were published broadcast, and enabled the pharmacists of the world to improve their preparations to a remarkable extent and the physicians to obtain results long desired, but never before achieved. Among

the first to perceive the value of these experiments was Dr. J. C. Ayer, of Lowell, Mass., who immediately set to work utilizing the same. Not content with what had been done, he started a series of experiments on his own behalf, in which he demonstrated that the maximum benefit of sarsaparilla was only had by combining it with yellow dock, podophyllin, the double iodides, and other invaluable drugs. The result of his work was the making of Ayer's Sarsaparilla, which, at the outset, was adopted by the medical faculty as a standard remedy, and which has held that place ever since. It is difficult to express the good wrought by this famous preparation. There is not a disease occasioned by bad blood, by impurities and humors caused by sickness, heredity or environment, and by contagion or infection, but what Ayer's Sarsaparilla has been employed to produce relief and effect a cure. So great has been its success in this regard that hundreds of manufacturers have endeavored to produce an imitation of the compound. Some have run along a few months and others a few years, but most of them have disappeared from the commercial and medical worlds. The reason of this failure lies in the fact that they were unable to produce a preparation of equal merit. They may have used the same medications in their preparations, but did not apply the same processes in the manufacture of their goods. As a result, necessary and unavoidable, they turned out a sarsaparilla which was not uniform, stable or trustworthy. No physicians could order such preparations, no invalid could use them to relieve himself of disease, and no father could apply them to his ailing offspring. In the meantime, Ayer's Sarsaparilla kept on ever improving. It utilized the new process of percolation, extraction and double reaction, and produced a compound which was perfect from both a medical and chemical standpoint. To-day it enjoys the respect and confidence of the faculty from its purity and certainty, and is adopted into the *materia medica* of the civilized globe. It is, as it has been from the beginning of its career, the best sarsaparilla in the markets of the world.

PREMIUM OFFER.

In order to increase our subscription list more rapidly, we make the following offer to those who shall send us, before July 1, 1889:

SUBSCRIPTIONS AT ONE DOLLAR EACH.

FIFTY DOLLARS IN CASH

for 200 Subscriptions.

TWENTY-FIVE DOLLARS IN CASH

for 125 Subscriptions.

TWENTY DOLLARS IN CASH

for 100 Subscriptions.

FIFTEEN DOLLARS IN CASH

for 75 Subscriptions.

TEN DOLLARS IN CASH

for 50 Subscriptions.

FIVE DOLLARS IN CASH

for 25 Subscriptions.

TWO DOLLARS IN CASH

and the *AMERICAN ANALYST* free for one year for 10 Subscriptions.

ONE DOLLAR IN CASH

and the *AMERICAN ANALYST* free for one year for 5 Subscriptions.

DIRECTIONS:

Send in the subscriptions as soon as received by Postal Note, Post Office Money Order or Check, payable to our order. Address your letter to *ANALYST PUBLISHING COMPANY*, 19 Park Place, New York City, stating that you wish to be entered on the premium list. You will then be credited with each subscription received. Notify us when you have furnished enough subscriptions to entitle you to the premium which you desire to obtain and a check will be mailed to you at once.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the "Handy Binder" for binding the *ANALYST*, because of the following advantages: It is elegant in appearance, strong, durable and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

BUSINESS NOTES.

HORSFORD'S ACID PHOSPHATE,

AS A TONIC.

Dr. John Gerdine, Athens, Ga., says: "In dyspepsia, accompanied with prostration from overwork, I think it is a fine tonic."

A GOOD RULE.

Never begin your correspondence with "I," but in whatever way you commence a letter be sure it is written with one of Esterbrook's popular steel pens.

LOOK OUT for Imitations and Substitutes OF *Horsford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

WORTH REMEMBERING.

Matthews & Pierson are the popular proprietors of the Sturtevant House, Broadway, cor. 29th Street, N. Y. It is one of the best in the city and a home-like, central place to stop.—*News*.

CALIFORNIA

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Harwin & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD. New York, } Agents.
C. JEVNE & CO., - - - Chicago, }

FACIAL BLEMISHES.

The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Pitting, etc., and their treatment. Send 10 cts. for book of 128 pages, treating on 25 skin imperfections, 6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,
210 West 42d St., New York City, N. Y.
Inventor of Facial Appliances, Springs, etc.
Six Parlors; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.

HORTON, CATO & CO.'S



"ROYAL" SALAD DRESSING.

The best prepared Dressing, always fresh, does not turn oily, rancid or decompose as other dressings of a similar nature.

"ROYAL" WORCESTERSHIRE SAUCE,
The Peer of American Product.

HORTON, CATO & CO.,
SOLE PROPRIETORS AND MANUFACTURERS,
DETROIT, MICH.

LEA & PERRINS' SAUCE.

Lea & Perrins', the original and genuine Worcester-shire Sauce, has been before the public over a half a century. Like all popular favorites it has long been the standard of comparison and the pattern for counterfeiters who not being able to imitate its excellence offer to the public imitations in bottling, labels and style of putting up. They dare not counterfeit the signature of Lea & Perrins which is on the red label of every genuine bottle, and of which this is a facsimile.

Lea & Perrins

To be sure of obtaining the genuine article, see that the above signature is on the label.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

ALTHENE SKIN SOAP

An absolutely pure and perfect soap for all purposes of the toilet, nursery, bath or sick-room. Has the approval of leading chemists and physicians, and is recommended by all who have used it. Price 25 cts. a cake, or 65 cts. for a box of three. Can be obtained of the retail druggists or from

J. W. CAMPION & CO., 916 Filbert Street,
PHILADELPHIA.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.			Price Including Regular American Price. Analyst.	
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly	4 00	3 50
Babyhood.....	1 50	1 60	Household	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,
19 Park Place, New York.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

Robert Gordon's

TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO,—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,

In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

ESTABLISHED 1857.

J. H. CUTTER,

—OLD—

BOURBON AND RYE WHISKIES.

We are the Sole Owners and Proprietors of this Celebrated Brand of Whiskey.

C. P. MOORMAN & CO.

LOUISVILLE, KY.

We Guarantee the Superior Quality and Absolute Purity of every Barrel of Whiskey sold by us under this Brand.

STEWART CERAMIC CO.,

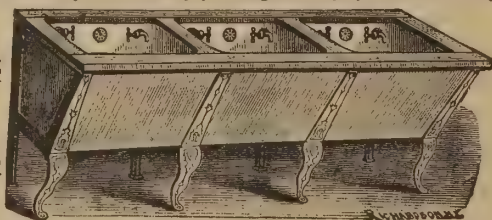
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top. **SMOOTH GLAZED SURFACES. ALWAYS CLEAN.**

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

THE TORSION**Braided Wire Mattress.**

At all times a thoroughly ventilated and perfectly clean mattress, it cannot absorb odors, or retain exhalations or disease germs.

D. HAYES AGNEW, M. D., Prof. of Surgery, University of Pennsylvania, says:

"The Torsion Braided Wire Pillow and Mattress I regard as superior to anything of the kind now in use; well suited for either private or hospital use."

Prof. WM. H. PANCOAST, late Professor of Anatomy, etc., in Jefferson Medical College, now Professor of Anatomy and Clinical Surgery in the Medico-Chirurgical College of Philadelphia Hospital Surgeons, says:

"I have used in my surgical practice your Braided Wire, in the form of mattresses, pillows for the head and body, and short pillows for the arm and leg when injured. I find them most admirable, cool and light, yet affording perfect and elastic support."

I have saved a patient from bed sores by the use of the Braided Wire mattress."

WM. H. FORD, President Board of Health, Philadelphia, says:

"I have used the Torsion Braided Wire Mattress with great satisfaction, it is light and therefore easily handled; it is elastic and very comfortable. The case can be easily removed to afford a complete airing, a feature of great importance from a health point of view. It is an invention of great usefulness."

For descriptive circular and price list, send to

The Torsion Braided Wire Upholstering Company,

1017 CHESTNUT ST., PHILA.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use night or day, when traveling or at home.

MALTED MILK does away with the danger of using sour or impure milk.

MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.

Ask your physician his opinion of **MALTED MILK**, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and family use, ... \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

Subscriptions \$1 per year. Now is the time to subscribe.

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, Jr.

ESTABLISHED 1793.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York.

Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

GOOD ADVERTISING AGENT WANTED

ON LIBERAL TERMS, FOR A MEDICAL MONTHLY, ALSO FOR THIS JOURNAL,

ADDRESS, *Analyst Publishing Co.,*

19 Park Place, New York.

LADIES' HOME COMPANION

Now in its 16th year, well established, tried and true, as attested by a constituency of over Three Hundred Thousand Readers. The publishers, desirous of extending its influence into half a million homes, offer

3 Months Trial
for **Only 10 Cents** (Silver or Stamps.)

10 cents will secure 6 NUMBERS of this charming periodical (all different), each copy equal in size, quality, amount of reading matter, etc., to other illustrated papers that cost 10 cents a copy or \$4.00 a year.

The LADIES HOME COMPANION stands without a peer in literary excellence, typographical beauty, suggestive illustrations and helpful advice for every department of home life. It is beautifully illustrated, and printed on fine, cream-tinted paper, and has a more brilliant array of contributors than ever before, consisting of

8 Regular Editors and Scores of Eminent Writers,

Whose facile pens will furnish **Short and Continued Stories** of absorbing interest, while all branches of household economy that can possibly come within the good housewife's province will be ably treated.

PRACTICAL HOUSEKEEPING. This department is a well-spring of valuable suggestions for every branch of housekeeping, including a large variety of tested recipes, and how to prepare them at the least expense, in dainty and appetizing forms; also, hints for table decorations, methods of work, etc., and much practical information, covering the entire range of household work, treated in such manner as to interest every housekeeper.

FANCY WORK DECORATIONS. In these departments elegant illustrations and plain directions are given, showing how to make all kinds of fancy work, embroideries, needlework, crocheting and knitting; also suggestions for ornamenting Parlors, Bedrooms, Dining-rooms; arranging and Decorating Furniture, Curtains, etc., so that homes may be adorned with taste, and made attractive with little or no outlay. Instructions will also be given that will enable any one to make many useful and ornamental articles, such as Wall-pockets, Brackets, Fancy Leather-work, Work-boxes as Wall-pockets, Brackets, Fancy Work with Leaves, Flowers, Grasses, etc.

FASHIONS, OR, WHAT TO WEAR AND HOW TO MAKE IT. Artistic illustrations are always found in this department, with descriptions of the newest and latest Styles and Novelties in Ladies' and Children's Dresses, Hats, Bonnets and other garments, with directions that enable one to dress well and economically. The very finest illustrations are used to make everything plain, so that ladies can make their own dresses, trim their own Hats and Bonnets, and dress themselves and their children with neatness and taste, in the prevailing styles. Each copy of the Ladies Home Companion is worth more than a year's subscription to every young lady and married woman, for this department alone.

MOTHERS find the portion devoted to them invaluable, and filled with a wide range of helpful suggestions obtained from practical experience relating to a mother's duties to her children, how they should be reared and cared for in sickness and in health; also suggestions and illustrations for all kinds of children's garments and many other necessary things.

FLOWERS. The Floral Department is a treasure to the amateur florist and all who love flowers, containing much of interest to those who raise flowers, whether for pleasure or profit.

OCCUPATIONS FOR WOMEN.

Women can make money in many ways, and the opportunities for women to become self-supporting are constantly increasing. The Ladies Home Companion aims to keep women informed in reference to those things that wives, mothers and

single women are doing to earn money, while in all its departments it is the most complete, most readable and

MOST FASCINATING LADIES' PAPER PUBLISHED.

So popular have our publications become that more than a million people read them regularly.

Mention this paper and address **LADIES HOME COMPANION, Philadelphia, Pa.**

A Practical
Household
Journal.



TOILET.—Recipes and hints for care of hands, face, teeth, eyes, hair, etc., color and harmony in dress, etc.

ETIQUETTE at home and abroad, at the table and on the street, at public gatherings, etc.

CHILDREN'S CORNER sparkles with interesting sketches and splendid stories for wide-awake boys and girls, while an opportunity is given to develop their mental powers by solving puzzles, charades, enigmas, etc., for which prizes are offered.

DEPORTMENT.—Rules, usages and ceremonies of good society, letter writing, good manners, the art of conversing well, accomplishments, home training.

SEASONABLE BILLS OF FARE are given, with plain directions for the economical preparation of healthful, nourishing and palatable dishes, with hints for serving, arrangement of table, reception of guests, etc., etc. Also menu for parties, teas, receptions, Thanksgiving and Christmas dinners.

PEACOCK'S BROMIDES

(SYR: BROM: COMP: PEACOCK)

NERVE SEDATIVE.

Each fluid drachm represents 15 grains of the Combined C. P. Bromides of Potassium, Sodium, Calcium, Ammonium and Lithium.

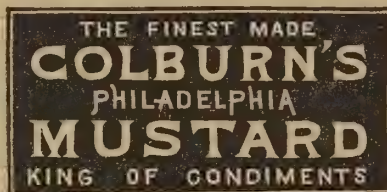
USES:—EPILEPSY, and all CONGESTIVE, CONVULSIVE, and REFLEX NEUROSES.

This preparation has stood the test of time and experience, and can be relied upon to produce results, which can not be obtained from the use of commercial bromide substitutes.

DOSE:—One to two FLUID drachms, in WATER, three or more times a day.

PEACOCK CHEMICAL CO., St. Louis.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.



THE VIBURNUM COMPOUND

OF
DR. HAYDEN,
THE STANDARD IN
FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

OPIUM AND LIQUOR HABIT CURED.

WE solicit an investigation of our system and methods, and will gladly send to any one very interesting matter on the OPIUM HABIT DRUNKENNESS and their effects and cure. Physicians specially invited to examine, and if desirous of trying our remedies, liberal arrangements will be made with them.

THE LESLIE E. KEELEY CO., Dwight, Illinois.



is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your **LIQUID PEPTONOIDS** as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the **LIQUID PEPTONOIDS** full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try **LIQUID PEPTONOIDS** in two very desperate cases of **DIPHTHERIA**. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your **LIQUID PEPTONOIDS**."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In *dyspepsia* and *loss of appetite* its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis* and other wasting diseases, *Nervous Prostration*, *Constipation*, *Inanition*, *Malnutrition*, *Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with **LIQUID PANCROBILIN**, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. **PILL PANCROBILIN** is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.

Acidi Phosphorici aa, grains, ss.

Antipyrin.

Ext. Apii. Grav. dulc. (Celery), aa grains, j.

Sodium Bromide, grains, v.

The satisfactory results produced by **PHOSPHO-CAFFEIN COMP.** in *Headaches*, *Neuralgia*, *Insomnia*, *Neurasthenia* and general *Nervous Irritability*, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

(ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. **PHILADELPHIA, PA.**

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.
MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

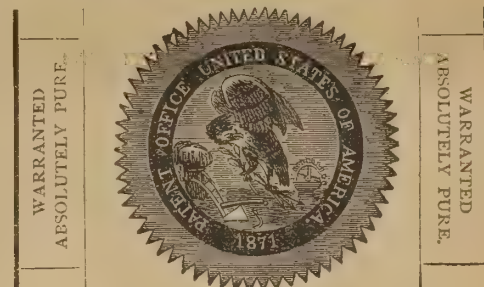
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

ARMOUR & CO.

CHICAGO, ILLS.

PACKERS OF

Pork and Beef Products

CANNED MEATS,

ETC.,

FOR HOME CONSUMPTION AND EXPORT

TO ALL PARTS OF THE WORLD.

Also,

SHIPPERS OF

Choice Dressed Beef,

MUTTON AND HOGS,

In Refrigerator Cars,

To BOSTON,

NEW YORK,

PHILADELPHIA,

BALTIMORE,

And other cities throughout the country.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans. PRICE BAKING POWDER CO.
NEW YORK, CHICAGO, ST. LOUIS.

ESTERBROOK'S STEEL PENS
Leading Numbers 14,048, 128, 130, 135, 333, 161.
— For sale by all stationers. —
THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
⇒ WORK · CAMDEN, N. J. · ⇒

COLDEN'S LIQUID BEEF TONIC.
ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator."
AN INVALUABLE AID IN THE TREATMENT OF ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,
115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

STERLING BAKING POWDER



MADE FROM
99.50 PURE CREAM TARTAR.
This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.
STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.

"GOOD MORNING" COFFEE PERCOLATOR.

RICHEST, PUREST, BEST
CUP OF COFFEE
EVER MADE.

SIMPLEST AND
QUICKEST PROCESS.

RETAINS THE FULL STRENGTH
AND AROMA, BUT HAS
NO BITTER TASTE.

ONE
POUND
OF
COFFEE
WILL GO
TWICE AS FAR
AS BY
ANY ORDINARY
METHOD.

FOR SALE BY
THE TRADE.

ARE YOU A
GOOD JUDGE
OF COFFEE?



IF YOU CANNOT PROCURE IT IN YOUR TOWN,
WRITE TO
MANNING, BOWMAN & CO.
57 Beekman St., New York.
Circulars and Price List sent Free
on Application.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

Make the Baby Laugh.

It will, whenever Papa and Mamma are in sight, if it is properly nourished. It is the healthy child's normal condition. If your baby is not that way,

RIDGE'S FOOD

will help you make him so. Woolrich & Co. on label.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 9.

NEW YORK, THURSDAY, FEBRUARY 28, 1889.

WHOLE No. 105.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

A Contemptible Fraud.....	103
Charms of Celibacy.....	98
Care of the House.....	102
Colds and Catarrhs.....	103
Dressed Beef War.....	99
Domestic Dietetics.....	103
Editorials.....	97
Laws Honestly Executed; Felling Trees by Electric- ity; Food, Fraud and Folly; Adulteration Apathy; Vaccination; Nailing a Lie	
Late Suppers.....	100
Lustre of Metals.....	102
Opium Smoking.....	103
Sight and Hearing.....	100
Sorosis, a Day with.....	100
Woman's Work.....	100

LAWS HONESTLY EXECUTED.

In our issue of February 14th we had occasion to comment upon the peculiar manner in which the Dairy Commissioner of New York and his assistant have executed the laws. They seem to think and act as if there was but one law, and that for the punishment of the manufacturers and sellers of oleomargarine; and while devoting their time, energy, and all the money they can get appropriated to this sole purpose, the people of this State are allowed to be poisoned and robbed by infinitely worse swindles in the way of bad butter sold at extortionate prices. The markets and stores of New York are full of disease-breeding, rancid, worked-over grease, called butter; but presumably in the interest of the many who make and sell this disgusting stuff their illegal actions are overlooked and winked at, but the makers and sellers of honest, pure and healthy oleomargarine are not only prosecuted but persecuted. It may perhaps be too charitable for us to take this view of the action of the Dairy Commissioner, but we will let it go at that. We refer to it again at this time because we have before us a copy of the thir-

tieth annual report of the Inspector of Milk and Vinegar of the city of Boston for the year 1888. "This report could be profitably reprinted by the State of New York, and a copy presented to our Dairy Commissioner, to our State Board of Health, and to every official connected with any of our local boards of health. It would show them how laws are properly, honestly, and impartially executed in Massachusetts. In the common interest of the public welfare, we earnestly wish that the sanitary laws of this State were as wisely conceived and as faithfully and skillfully executed as they are in Massachusetts, and we would hold up before our Health Board and its officials as a model in scientific attainments, executive ability and fearless impartiality, the gentleman whose report we are quoting, Dr. James F. Babcock. This report, after giving the statistics of the work accomplished during the year, proceeds to explain in detail the practical workings of the office, the methods of executing the laws, the manner of taking samples, the chemical standards and test employed, the system of detection, the action and decisions of the courts in cases arising under the laws, and the various adulterations found. Valuable information is then added about the nature and sale of skim milk, thin and thick cream, and buttermilk. Then follows a chapter on oleomargarine, with a complete account of the workings of the oleomargarine laws, the actual facts about oleo, the opinions of scientists of its sanitary effects, the manner and conditions of its sale in Boston, the representations under which, and the prices at which, it is sold in comparison with butter, the effects of its sale on honest butter, its relations to the agricultural interests of the State, and the editorial opinions of the dairy press. Colored butter and its imitations, renovated and made-over butter, are next handled without gloves. Some thirty or more patents granted by the United States and foreign Governments for converting rancid, putrifying or decayed butter and butter scrapings, into marketable "gilt edge dairy butter" or "cabbage leaf covered fresh roll butter," are quoted, and make appetizing reading for those who have always been officially misinformed that they must avoid "bull butter," and buy only "farmer's butter." It is clearly shown that the "honest farmer" can give a liberal discount to the oleomargarine manufacturers, and then throw them completely in the shade in the making of nasty butter. Disgusting ingredients, as butter color, are officially proven to have been constantly employed, and oleo oil is the cleanest adulterant used by these virtuous butter makers. Space forbids further quotations, but we again urge a perusal of this instructive and fearless report upon our officials, in hopes that it will shame them into doing their duty to the whole people, without prostituting their office to the selfish interests of the few.

FELLING TREES BY ELECTRICITY.

Hitherto machines for felling trees have been driven by steam power, but this is sometimes inconvenient, especially in thick woods, and electric power has recently been adopted in the Galician forests. Usually

in such machines the trunk is sawn, but in this case it is drilled. When the wood is of a soft nature the drill has a sweeping motion and cuts into the trunk by means of cutting edges on its sides. The drill is actuated by an electric motor mounted on a carriage, which is brought up close to the tree and shackled to it. The motor is capable of turning round its vertical axis; and the drill is geared to it in such a manner that it can turn through an arc of a circle and make a sweeping cut into the trunk. The first cut made, the drill is advanced a few inches and another section of the wood removed in the same way until the trunk is half severed. It is then clamped to keep the cut from closing, and the operation continued until it would be unsafe to go on. The remainder is finished by a hand-saw or an axe. The current is conveyed to the motor by insulated leads brought through the forest from a generator placed in some convenient site.

FOOD, FRAUD AND FOLLY.

"Instead of attempting to prohibit the manufacture of any imitation food product, all State legislation should be in the direction of compelling imitations to be sold for what they are and nothing else."

The foregoing is an extract from an editorial article on the adulteration question, in the Philadelphia Times. It expresses exactly the sentiment that the AMERICAN ANALYST has maintained for the past five years. When the law rigidly compels every dealer in food commodities to vouch for the precise character of what he sells, one of the greatest evils associated with the adulteration trouble will be obviated. The government chemist, in his recent report, quoted at the time in this column, stated that official investigations, wherever conducted, show that the great majority of substances used for adulterants are not injurious to health. The public is being much more liberally cheated than it is being poisoned. It is an erroneous idea that any substance used as an adulterant of, or a substitute for, a food product is to be avoided as itself being injurious to health. Food adulteration is carried on by manufacturers to make money quickly and safely, and it is to their interest to keep themselves well posted on the subject of cheap and harmless substitutes. The adulteration alarmists, ignoring those well established facts, seek with feverish zeal to keep the popular imagination inflamed with the idea that the land is constantly flooded with poisonous sophistications, and that health and life are being incessantly endangered. Agitators of this class are as arrant humbugs as the frauds they pretend to denounce. They are mostly either the hungry penny-a-liners of the sensational daily press, or they are amateurs who fatuously mistake a grain of benevolence in their own composition for scientific aptitude, on the strength of which they set out as "crusaders" to regenerate the world. A blatherskite of this amiable stamp poses in Philadelphia, where he has succeeded in making himself the everlasting laughing stock of the community. He started out by styling himself a "universal benefactor;" but for some time past he has

dropped that title to set himself up as a "society," of which he is understood to constitute the board of officers and the entire membership in his single person. He is harmless, however, and, whenever he comes to the surface, amusing, likewise. Happily the public has become too well educated on the subject to give much heed to such nonsense. So far as food products are concerned, the weight of scientific opinion declares that on an average only about two per cent. of the whole amount consumed is adulterated, and of that percentage the most of the sophistications are not harmful to health. In regard to drugs, the data are not so complete, but it is only food adulterations that we are now considering. Small as the proportion of such frauds is, there are undoubtedly some that are dangerous, and their exposure and extirpation cannot be too energetically attempted. Only, in the presence of a real, tangible enemy, let us not be betrayed into idiotically assaulting windmills.

ADULTERATION APATHY.

Under the provisions of certain sections of the Act to prevent the manufacture or sale of adulterated food or drugs in the District of Columbia, approved October 12, 1888, any health officer, inspector of nuisances, or food inspector of the District, may submit samples of food or drugs at the Internal Revenue office of the Treasury Department for analysis. Purchasers of food or drugs are also entitled to submit articles purchased. Though this act has now been a law for four months, not a health officer, inspector or citizen of the District of Columbia has submitted an article of food or a drug to the Internal Revenue office for examination. This has not been the fault of the department, if what Mr. Richards, the microscopist of the office, says is true. In conversation in regard to the matter, he said to a correspondent last week: "This office has done all in its power to urge the citizens of the District to avail themselves of the provisions of the act. It has brought the matter to the attention of the Commissioners, the health officers and the newspapers of the District. There has been no result. Officials and citizens will simply not take the trouble to bring food frauds to the attention of this office. We cannot take the initiative. The law does not give us that authority; so all we can do is to wait. Nearly, if not every State in the Union has a statute to prevent the manufacture or sale of adulterated food or drugs similar to the law in force in this District. So far as I know, Massachusetts is the only State in which prosecutions for violations of the law are being successfully carried on. New York State intrusted the State Board of Health with the duty of seeing that its law was observed. The Board made an arrest, the case was tried, and the defendant was dismissed, the judge ruling that he had done nothing for which he could be held, as the adulterants used were not poisonous. So it goes. People are not alive to the importance of the subject. So long as they are not poisoned, they do not seem to mind being cheated."

VACCINATION.

That obtuse fraction of the community which prides itself upon blind opposition to vaccination might be moved to a more liberal attitude on the subject if it would condescend to look into the results that have been reached under its practical application. In Paris, for instance, where the law requiring vaccination is feebly enforced, the mortality from smallpox ranges from 136 to 10.1 to the 100,000 inhabitants, while in the principal German cities, where the vaccination laws are rigidly enforced, the death rate is but 1.44 to the 100,000 inhabitants. London, under compulsory vaccination, has a death rate from smallpox of but 0.6 to the 100,000 inhabitants. On the other hand, in the Canton of Zurich, in Switzerland, since the compulsory vaccina-

tion law was repealed in 1883, the death rate from smallpox has risen steadily from 8 to 85 to the 100,000 inhabitants.

NAILING A LIE.

Our esteemed contemporary, the *World*, is generally carefully edited, but occasionally erroneous statements will creep into its columns. One now before us, in the market reports of the issue of February 21st, is so maliciously mendacious and so clearly shows the source of its inspiration that we deem it necessary to call attention to it. While disclaiming any knowledge, the genius who edits that column attempts to use "whispered rumors" as the basis of an accusation against the Chicago beef dressers that they have raised \$25,000 to buy a member of the New York legislature. If he had any brains at all he would not make such a foolish statement, and if he had any experience as a journalist he would not make himself a laughing stock by the silly assertion that the refrigerator cars in which dressed beef is shipped from Chicago are air-tight or ammonia tainted, when every tyro knows that those cars are ventilated by slat windows and that the ammonia process of producing artificial cold is never used and that the patents on refrigerator cars are not owned by any of the dressed beef men. The whole article is but a tissue of falsehoods on a par with several articles that have appeared in that column before, and is so evidently introduced there in support of the unscrupulous designs of New York speculators that it is high time the little methods of the underling who writes it were looked into by the managing editor. Certainly such articles are not for the interest of the people.

CHARMS OF CELIBACY.

A SKETCH OF HOW A MAN SEWS ON BUTTONS.

Did you ever see a man in the solitude and privacy of his study, attempt to sew a button on by himself? It is, in all its details, one of the most interesting performances in the world. First, he hunts for a button. Generally, to secure it he robs Peter to pay Paul, and cuts one from another garment. This may be much larger or smaller than the size he is wearing. Next, he hunts for a needle. Probably he goes out and buys a paper of needles. He always chooses the largest needles, having an impression that larger needles will sew stronger than small needles. As to thread, he gets the coarsest he can find, and this he doubles. He would thread his needle. He takes the big needle in one hand, and his coarse black thread in the other; he bites off the thread to the desired length; then he tries to twist it to a fine point. Generally, in this he succeeds in making two and sometimes three fine points out of one end. Of course, he can't get all these points through the needle's eye at once. He tries hard to make the needle and thread get on friendly terms with each other. Sometimes it is the needle that kicks, sometimes the thread. Sometimes he really imagines he has threaded his needle. It is an ocular delusion. The thread has missed the needle's eye half an inch. It is harder work than sawing wood. At last the needle is threaded. Now he tries to sew the buttons on without taking his trousers off. This proves a failure. He twists himself into an uncomfortable position, and so would sew. But he cannot sew so. He runs the needle into his finger and makes an inaudible exclamation. Again the needle slips into a fleshy part of the hand, which induces a very audible dash from the operator. The recording angel knows what is going on inside of him, and debits him with every item. He sews hard. He has forgotten all about the necessity for a thimble. He jams his thumb down on the needle's head, and it punctures his thumb or runs under the nail. By-and-by he sews the button's eye full of thread. His big needle does not pass through any more.

He must stop. He ends by winding the thread as many times as it will go under the button, and perhaps he leaves off with two or three inches of thread sticking outside. A woman can through many outward indications, tell when a man has been trying to sew on a button. He doesn't know the shibboleth of needle and thread, and it catches somewhere every time. At last the button is sewed on, and he is proud of his work.—*Housekeeper*.

LIFE FAILURES.—"I hold that no man deserves to be crowned with honor whose life is a failure," said Cicero, the heathen philosopher. "He who only lives to eat and drink and accumulate money is a failure. The world is no better for his living in it. He never wiped a tear from a sad face, never kindled a fire on a frozen hearth. I repeat with emphasis that he is a failure. There is no flesh in his heart. He worships no God but gold."

EASY EXPERIMENT.—Cut three leaves of red cabbage into small pieces, and, after placing them in a basin, pour a pint of boiling water over them, letting them stand an hour; then pour off the liquid into a decanter. It will be of a fine blue color. Then take four wine-glasses—into one put six drops of strong vinegar; into another, six drops of solution of soda; into a third, the same quantity of a strong solution of alum; and let the fourth glass remain empty. Fill up the glasses from the decanter, and the liquid poured into the glass containing the acid will quickly change to a beautiful red; that poured with the soda will be a fine green; that poured in with the alum will turn to a pretty purple; while that poured into the empty glass will remain unchanged.

Custom's Injuries.

Described by a noted London Dentist.

37 HIGH HOLBORN, LONDON, W. C.

GENTLEMEN: I consider the bristle tooth brush has to answer in no little measure for the receding gums around the necks of the teeth so constantly brought to our notice. After thoroughly testing the



I have no hesitation in saying that any one who uses it for one week will never go back to the old bristle brush with its attendant miseries of Loose Bristles and Constantly Wounded Gums.

Faithfully yours,

J. SHIPLEY SLIPPER, Dental Surgeon.

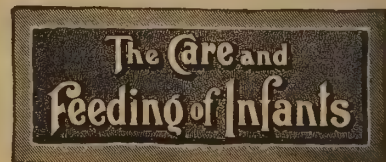
Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mailed.

HORSEY MFG. CO., Utica, N. Y.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

THE DRESSED BEEF WAR.

(The Journalist, February 16.)

HOW IT INTERESTS THE NEWSPAPERS.

The newspapers of the land have been filled with items about the action of the various legislatures on certain laws which have been proposed to prevent the sale of beef in those States, unless the animal before slaughtering has been inspected in the State where the beef is to be sold. It is plain, of course, that the law is intended to exclude the sale of Chicago dressed beef. No law of this kind is ever introduced without some motive, and in this instance the motive is easily discovered by an examination of the papers that are in favor of, and those that are opposed to, such a law. The papers in favor are some of those that represent the interests of Western cattle ranches and one or two papers that are the organs of butchers. The more influential dailies, like the *Chicago Tribune*, *Times* and *Herald*, the *New York Tribune*, *Times*, *World*, *Herald* and *Commercial Bulletin*, and the *Philadelphia Press*, *Ledger*, *Record* and *Inquirer* have expressed very unfavorable opinions of the law. This was principally on the ground that such a law which would seek to protect a few against the legitimate competition of many, would be a bad precedent of State protection sure to be followed by retaliatory measures. The claim, under the cloak of which the passage of the law was to be pushed, that it would prevent the sale of meat from unhealthy cattle has been proven erroneous, because national inspection could accomplish the same thing without any unfriendly interstate prohibitory laws. Another claim that it would help the Eastern farmer, has also been disproven, because the Eastern farmer does not suffer from the competition of dressed beef, but from the dangerous competition of Western live stock, which can be raised cheaper there. New York, New Jersey and Connecticut could not raise sufficient beef to supply the home market. The only interests to be benefited, and that is somewhat doubtful, are those who slaughter beef in the East. These arguments, *pro* and *con*, as taken from the papers who have expressed an opinion, have so far been sufficient to defeat the bill in New Hampshire, Ohio and Pennsylvania, and no doubt the bill will meet with a similar fate in the other States. If it should pass, however, some of the best lawyers in the country have expressed the opinion that the law will be declared unconstitutional. The whole subject, as it has been treated by the press, proves again that the newspaper, fraternity can always be relied upon for good common sense in the intelligent handling of such questions, and that no influence can be brought to bear that will swerve them from the purpose of honestly and fairly representing the opinions of the whole people.

(New York Daily News, February 16.)

A QUESTION OF GOOD AND WHOLESOME MEAT.

At this day of improved appliances and facilities for the transportation of dressed meat over long distances and its complete preservation *in transitu*, there ought to be some method available to protect the market against supplies of an unwholesome quality of such food without having recourse to measures that would raise its price. Of course questions of health in relation to the sale of food products are of first importance, but it is a question whether, from a reasonable sanitary point of view, there is any justification of the movements in certain State Legislatures to indorse the passage of laws providing that no fresh meat shall be sold in their respective States unless the animals are inspected on the hoof and slaughtered within the confines of the States where such products are sold. There is no reason why there should not be provision, through national legislation if necessary, for the proper inspection of cattle wherever they are slaughtered and for the condemnation of such as may be diseased or unfit from any cause. The requirements of adequate inspection having been provided for it might be considered more desirable in some respects, and mainly in respect to the wholesome quality of the food, that fresh meat be conveyed dressed over long distances than on the hoof. The condition of cattle is certainly not improved by their subjection to the ordeal of transportation some hundreds of miles by rail, after, perhaps, a long and exhausting tramp over the plains under the drover's whip. There would be a better assurance of wholesome meat to the consumer, and a less cruel experience for the animals themselves, if it could be made convenient and practicable to have them slaughtered even upon their native heaths and

packed for transportation direct from their grazing ground. As there must necessarily be an interchange of food products between the States, a wholesome quality in such products would, no doubt, be better insured by the operation of some system of national inspection and of vigorous condemnation of the unfit than by laws inoperative beyond the respective State jurisdictions. Nor should the desideratum of cheapness be lost sight of in legislation to regulate the conditions under which food products shall be sold. While statutory provision, as nearly as possible thorough, should be made to keep unwholesome articles out of the market, recourse should be encouraged to methods and appliances, such as science and invention furnish, to make food cheaper without deterioration.

(New York Evening Post, February 9.)

AN UNCONSTITUTIONAL SCHEME.

Although the Granger Meat Bill has been defeated in the Ohio Legislature, and is stoutly opposed in Pennsylvania, the movement appears to be spreading. The legislatures of Missouri and Kansas have now taken it up, and a proposal quite unprecedented in our history has been made by the latter to the former "to send representatives to a joint conference of interested States and arrange matters to suppress the dressed beef monopoly." This ridiculous scheme is in conflict with the Constitution of the United States (Article 1, Section 10, Clause 3), which says: "No State shall, without the consent of Congress, enter into any agreement or compact with another State." This prohibition is a very wise one. Unless it is lived up to in spirit as well as letter, the Union might as well be dissolved; in which case all the little fragments could adopt separate schemes of protection for their butchers, sausage makers, butter makers, soap boilers, coal miners, wood choppers, and what not. The outcry against the "dressed beef monopoly" is a demand for the protection of inferiority against superior talent or superior advantages of some kind. It was inevitable that the doctrine of protection as between the different States should make its appearance sooner or later. In fact, this is not its first appearance. Pennsylvania protects her own insurance companies by a differential tax of two and one-fifth per cent. on the premiums received, and New York retaliates by taxing Pennsylvania companies at the same rate on the business they do here. This is all wrong, and would not stand the test of judicial investigation in the Federal courts. The Granger Meat Bill, if it is ever enacted in any single State, will be swept aside by the first Federal judge who lays his hands on it.

(New York Evening Post, February 12.)

FIGHTING AN IMAGINARY EVIL.

A syndicate of State legislatures is a new thing in American polity. Such a phenomenon is in course of promotion or incubation at the West, to deal with what is called the Dressed Beef Combine. The Senate of the United States also has the subject under consideration, a committee having been appointed last year to take testimony and report upon it. This committee held sessions at St. Louis and other western cities, and is expected to make some kind of a report before the adjournment of Congress. It seems, however, that the legislatures of Missouri, Kansas, Tennessee, and half a dozen other States cannot wait for the action of their common agent, the Government of the United States, but must needs take the matter in hand themselves, not individually but collectively. It is said that eleven States have given their assent to the movement, whatever it may be. Naturally, there is a good deal of confusion as to the steps to be taken. The real grievance is cheap beef, the ostensible one being diseased beef. Mixed up with the grievances, real and pretended, is a deal of sympathy for the ranchmen on the plains, who, it is said, are suffering from the low prices of cattle, and are ground down by the Dressed Beef Combine to starvation rates. So we have for the basis and *raison d'être* of the syndicate of legislatures two real evils to be fought against, and one imaginary one, viz.: cheap beef, low priced cattle, and inadequate inspection laws.

We can understand how the last evil, the imaginary one, may be met, if any single legislature has the courage to grapple with it, the Granger Meat Bill of Pennsylvania having blazed the way. But since the legislature of that State, as well as that of Ohio, has been lacking in intrepidity, we do not see much prospect of advance in that direction. The syndicate of States will therefore be expected to give attention principally to the evil of cheap meat, and here the difficulties to be encountered are serious. France and Germany manage it by means of the tariff on imported meats. The former country can even protect one locality against another by octroi duties, as Paris has lately protected her own carpenters and cabinet makers against the pauper labor of

the provinces. With such examples before us, why should not the syndicate of legislatures, or some one of them, memorialize Congress to authorize internal tariffs to protect the slaughtering industry of the several States? The Constitution says that "no State shall, without the consent of Congress, lay any imposts or duties on imports or exports." The consent of Congress is the only thing needed to clear the way for the discouragement of cheap beef. A duty of two or three cents per pound would probably be all that the local butchers would need. How this step would help the ranchmen to a higher price for their cattle is not so clear. Perhaps a bounty on steers of a certain weight, to be paid under regulations of the Internal Revenue Department, would meet that difficulty.

(New York Times, February 15.)

STATE TARIFFS ON BEEF.

The Meat Inspection bill introduced in the Assembly yesterday by Mr. Nixon differs from the Cantor bill in that residents of the State are permitted by its terms to sell the meat of animals raised by them without such inspection as is required in the case of meat or cattle brought from another State. In this respect it resembles the Inspection bill introduced in the Tennessee Legislature and in the Legislatures of two or three other States. This exemption of the meat of animals raised in the State simply makes the bill ridiculous.

The movement for the inspection of cattle and other animals while alive and in the State where the meat procured by killing them is to be sold would not deserve much attention if it were not taking place simultaneously in many States, and were not based upon a common belief that the four great firms engaged in the dressed beef business have for some years been in combination with respect to the buying of cattle as well as to the selling of beef. The cattle growers on the far Western ranches have reason to complain of the action of these firms, for the price of cattle has been seriously depressed without a corresponding decline of the price of beef to consumers. But while consumers in Eastern cities may complain that they have gained little or nothing by the fall of the price of Western cattle, they cannot join the Eastern butchers in supporting inspection bills that are designed to exclude Western dressed beef, for the butchers find the price of this beef too low. The consumer thinks the Western dressed beef should be sold at lower rates because the price of Western cattle has fallen. The butcher complains that it is already sold at so low a rate that Eastern-killed beef cannot compete with it. The butchers, therefore, undertake to shut out the dressed beef by a law that shall prevent the sale of the beef of cattle that have been killed in another State. This is what the inspection bills introduced in ten or fifteen States amounted to, for the assumption that the Western dressed beef has not been inspected and is diseased is a pretext unworthy of honest and intelligent men. The aim of the proposed legislation is to raise the price of beef to the consumer in the East by methods that would at the same time lower the quality of a considerable part of the supply—that part furnished by the importation of live cattle from the pastures beyond the Mississippi. When these bills are so changed as to exempt domestic beef from inspection the scheme is reduced to its simplest terms and the insincerity and dishonesty of the sanitary pretense are more clearly exposed. The convention, composed of three Senators and five Representatives from each of twelve States and three Territories, that is to be held in St. Louis on March 12, may very properly make thorough investigation concerning the alleged combination of the four great firms of slaughterers and shippers, but it will accomplish nothing and only make an exhibition of folly if it shall commend a system of prohibitory State tariffs upheld by sanitary inspection laws.

(New York Commercial Advertiser, February 18.)

REFERRED TO THE CONSTITUTION.

The Governors of Nebraska, Texas, Iowa, Missouri, Ohio, Indiana, Wyoming, New Mexico and Arizona have agreed to her proposition of the Governor of Kansas for an interstate convention in St. Louis on March 12, having in view the suppression of the Chicago beef and pork-packing industries. The Governor of Pennsylvania has signified his desire to participate, although he does not appear to have been invited. When the representatives of these enterprising States and territories have been convened on the 12th of March, it will be advisable for some judicious friend to read them article first, section tenth, of the United States Constitution. Then they can go home again with the happy consciousness of having done their duty and enjoyed at the expense of their several commonwealths a pleasant little railroad trip.

WOMAN'S WORK.

WHAT SHE IS INDIVIDUALLY AND COLLECTIVELY ACCOMPLISHING.

A new publication is before us "devoted to the interests of women." It is entitled *The Business Woman's Journal*, and its editor and publisher is Miss Mary F. Seymour, well known as one of the leading stenographers of this city. The new paper is a handsome thirty-two page folio, handsomely printed in large clear type on fine paper. The initial number contains as a frontispiece an excellent portrait of Miss Frances E. Willard, "the woman who leads 200,000 women," accompanied with a biographical sketch of that energetic lady. A large number of articles interesting to feminine readers, and especially useful to them on account of their practical business recommendations, are embodied in the *Journal*, and we take pleasure in inviting attention to the new enterprise, inasmuch as it manifestly bids fair to be skillfully conducted in behalf of woman's interests, and particularly in behalf of those of working women.

Miss Redmond, a young Irish artist, who has been studying for three years in Italy, and recently returned to Dublin, has been commissioned by Lord and Lady Aberdeen to execute the bust of Mr. Gladstone.

It is stated that the Empress Frederick has bought land at Steglitz, for the erection of a hospice for young girls who have been abandoned by their natural protectors.

The Queen of the Belgians has, since the commencement of the New Year, started a household magazine called *La Jeune Fille*. Its object is to instruct girls in housewifery, and to keep their minds well up in matters concerning art and literature. The Queen herself contributes all the articles relating to household affairs, while, as theatrical critic, Her Majesty uses the pseudonym of "Madame Reyer." Princess Clementine of Belgium contributes articles on art and literature under the *nom de plume* "Marthe d'Orey; and Carmen Sylva, Queen of Roumania, supplies the poems. Crown Princess Stephanie of Austria is going to supply several pictorial attractions, and the Archduchess Marie Valerie of Austria's assistance has been solicited. This very regal magazine is expected to be a success. When queens and princesses give advice on any subject, or set examples of housekeeping skill and economy before girls, they generally get many converts. If a queen sets the fashion of sweeping her room and making her own bed, there is no knowing how many fair ladies will follow her example.

A Swedish insurance company recently elected Miss Karolina Wiersholm, the first lady doctor in Sweden, to examine women insurers.

A collection of the literary works of women is being made by Mlle. de Walker, the daughter of a French literary man, and the books will be exhibited at the forthcoming Paris Exhibition.

Senorita Ernestina Perez, the first lady doctor in Chili, took her degree at Santiago, and has just started in practice at Valparaiso.

The widow of Moritz Schafer carries on her husband's publishing business in Leipzig, and continues to issue the *Neue Bahnen*, which is the organ of the women's unions.

A French lady, who recently ably defended her father in a law court, has had the title of Doctor of Science conferred upon her.

STEEL PAYEMENTS.—As a substitute for granite blocks, steel paving is attracting considerable attention, its durability being said to be quite a point in its favor, and its cost being somewhat less. It consists of steel strips about $2\frac{1}{2}$ inches wide and one inch thick, rolled with a channel on the side exposed to traffic, and with notches about six inches apart. These strips weigh 11 pounds to the yard, are laid across the street a distance of about five inches between centres, and their length is only

sufficient to extend to the middle of the street, so that the proper slope from the centre to the gutters can be secured. They are bolted together so as to insure them against lateral slipping, and are fastened to wooden sills. A firmly constructed bed of gravel composes the support for this pavement, while between the steel strips a mixture of pitch and cement is poured, filling the interstices to a level with the tops of the strips, and rendering the surface comparatively smooth.

LATE SUPPERS.

SOME PRACTICAL HINTS FOR ACQUIRING CHEAP INDIGESTION.

While our cousins of Great Britain profess to wonder at the fondness of the Yankee for pie, we, in our turn, are full of wonder at the temerity with which John Bull indulges in late suppers. Below are a few recipes for that meal, taken from the *London Housekeeper* for February. They are recommended on account of their cheapness, and are introduced with a quotation from a 16th century poet: "Who goes to bed supperless, all night tumbles and tosses." It would appear as though steady persistence in "bed lunches," such as these, would be hardly more conducive to sound and peaceful slumber, and that in the end they would prove tolerably costly:

1. Boil one or more eggs hard and set them in water so as to easily remove the shells. When shelled, cut them in slices, dusted with pepper and salt. Have ready some thinly cut bread and butter, on which a little toasted cheese should be spread. Put the egg between the slices, and serve. Cost, 4d.

2. Make some good oatmeal porridge, and serve with jam, treacle or stewed fruit. Cost, 4d.

3. Pound several sardines in a mortar, with pepper, salt and a little vinegar. Spread the mixture on thinly cut bread and butter. Next, mix some shrimps as finely as possible, and put a little between each sandwich. Cost, 4d.

4. Have ready some melted butter, seasoned with minced parsley, pepper and salt. Get some large oysters and dip each one in the above mixture. Replace the oysters on their shells, sprinkle some lemon juice on them, cover with bread crumbs, and bake in a quick oven. Serve in the shells. Cost, 8d.

5. Take equal parts of cooked potatoes, carrots, savoy, one small onion, and chop them finely, with pepper and salt to taste. Bind with one egg, then bake the mixture. Serve with slices of lemon. Cost, 3d.

6. Grate some good cheese, and thereto add pepper, salt and bread crumbs, moistened with stock. Line a few patty-pans with cold mashed potatoes, and fill with the foregoing ingredients. Next chop up a few pickles, and strew them on the mixture. Cover with mashed potatoes, and bake. Cost, 3d.

7. Boil two ounces of macaroni for one hour. Drain, and add a quarter of a pint of milk, half an ounce of parsley chopped fine, a teaspoonful of lemon, thyme powdered, a little chopped lemon peel, with pepper and salt to taste. Put into a white buttered dish, and bake for twenty minutes. Cost, 3d.

SIGHT AND HEARING.

VELOCITIES OF LIGHT, ELECTRICITY AND SOUND.

From an observation of the eclipses of Jupiter's first satellite in 1675, Römer, a Danish astronomer, first deduced the velocity of light, his calculations establishing for it a velocity of 190,000 miles per second. M. Foucault succeeded in determining the velocity of light experimentally by means of an apparatus based upon the use of the rotating mirror, and calculated it to be 185,157 miles per second. In 1849, M. Fizeau measured the velocity of light directly, by ascertaining the time it took to travel from Suresnes to Montmartre (a distance of 28,334 feet) and back again, making a total travel of $5\frac{3}{4}$ miles nearly. He made use of a toothed wheel re-

volving at certain known velocities, a pencil of rays being transmitted through an interval between two teeth of the wheel, which was placed at Suresnes, was reflected by a mirror placed at Montmartre, through a series of tubes and lenses, directly back to the wheel. He found the velocity of light to be 196,000 miles per second. The mean of the three values above given is 190,385 miles, and the value generally taken as the velocity of light very nearly agrees with it, being 190,000 miles per second. Wheatstone, by the employment of a rotating mirror and an interrupted coil to give sparks, ascertained the velocity of electricity to be 288,000 miles per second. Kirchhoff estimated this velocity in a wire, where it met with no resistance, to be 192,924 miles per second. But, according to MM. Fizeau and Gounelle, its velocity with an iron wire is 62,100 miles, and with a copper wire 111,780 miles per second. These measurements, however, were made with telegraph wires, which induce opposite electricities in the surrounding media, thus producing a resistance which reduces the velocity. The nature of the conductor has some influence on the velocity, but not the thickness of the wire, nor the tension of the electricity. Direct measurements to ascertain the velocity of sound were made by Moll and Van Beck in 1823. Two hills near Amsterdam, 57,971 feet apart, were taken as stations, and cannon were fired at stated intervals simultaneously at both stations, and the elapsed time between seeing the flash and hearing the sound was noted by chronometers. From these experiments the velocity of sound was estimated to be 1092.78 feet per second in dry air. But it has been found that the velocity varies with the temperature, *i. e.*, at 32 deg. Fahr., the velocity of sound is 1090 feet per second, and that for every degree of temperature above this $1\frac{1}{4}$ feet must be added to the velocity. Fogs or rains, unaccompanied by winds, do not interfere with the velocity of sound, but wind alone will interfere with its velocity materially. There is some reason to believe that loud sounds travel somewhat faster than low ones, which was first remarked by Prof. Mullet while carrying on blasting near Holyhead. In water the velocity is about 4,708 feet per second, nearly four times as much as in air; in wood, from 12,000 to 16,000 feet; in iron, 17,500 feet; and in copper, 10,500 feet per second.

A DAY WITH SOROSIS.

A SPRIGHTLY PEN-PICTURE OF THE LADIES' CLUB IN SESSION.

It is not always necessary to go abroad in order to learn what is taking place in one's own home, but we believe many, even of our New York lady friends, will find something fresh in the following piquant sketch of a meeting of the Sorosis contributed by a correspondent of the *Chicago Sunday Herald*:

There is something suggestive of late dinners and lost money, confused reminiscences and revolving key holes, headaches and depressing reflections in the idea of a social club, but when the club is dressed up in petticoats and tied with a sash, in other words, founded, organized and officered by women, then its chief dissipation is a luncheon of muslin sandwiches and cambric tea, its wildest revel a discussion on some esoteric problem or transcendental theory.

The oldest and most famous woman's club now in active operation is the Sorosis, which was founded by Jennie June, Alice Cary, Kate Field and a dozen bright, literary women, more than twenty years ago. It holds its social meetings on the first Monday in each month, in the banqueting hall and parlors at Delmonico's, and probably there is no psychological, economic or scientific problem from the azoac formation to the decline and fall of the bustle that has escaped its investigation and solution. No complicated social question whose premises have not been established fearlessly in their councils. Most women who join this club have either a vocation,

a mission, or a hobby, though occasionally a sweet, quiet woman slips inside the mystic pale who is content to be what God created her, simply a woman, nothing more, and whom the others regard with superior pity, because she has no ambition, no life work, no peculiar and glorious calling.

Any time after 12 o'clock on these famous Mondays, if you whisper "Sorosis" in the ear of the cerberus who waits in the elevator to guard the approach to these occult mysteries and ceremonies, you will be promptly elevated to the third floor where the rites are performed, providing you have the semblance and guise of a woman; for though the members of Sorosis do not wish to arrogate anything of superiority to themselves because they have had the good fortune to be women, and are willing to admit that the accident of being born a man is a misfortune and not a fault, still no man may gain admittance to their festivities. As the elevator slowly ascends a peculiar sound or succession of sounds arrests your attention as though sharp, staccato notes were being picked from the shrillest strings of a hundred violins. It is only half as many women talking together of their hobbies and their husbands, their servants and their serials, their children and their charity—all talking at once, nobody listening to anybody else, and no one minding the discourtesy. There are novelists and journalists, physicians and professors, agitators and reformers, presidents of societies, teachers of new theories, missionaries and advocates—each capering wildly about on her own particular hobby horse and apparently oblivious of every other prancing charger. In one corner of the room, under the surveillance of an apostle of physical culture, in a dress reform costume without any waist line and a generous breadth of seam are the celebrities of the day, looking very much subdued and not a little frightened. Threading her way in and out among the throng, an elderly woman with a diamond S engraved with the word "Sorosis" blazing on her shoulder and a peculiar smile on her lips, which, beneath its velvet, bears a suggestion of claws, greets each new comer with a dignified salutation. It is the president, Mrs. Thomas, whose black silk dress is turned away from folds of white mull that are caught at the throat with a diamond pin, while a heavy chain and seal of gold are suspended from her belt. Her head, unlike the others, is unbonneted, and has a peculiar fortification of shell combs, one above the other, with terraces of grayish brown hair between. Her face presents the impenetrable passivity and possibility of a garrisoned fort. Your respect and admiration grow for the woman when you determine later the slow process that has crystallized the features into their granite immobility as you watch her quietly and firmly hold in leash a hundred women's tongues for ten full minutes while another woman speaks, and then make the speaker stop talking when her time is up, in spite of her efforts to continue, re-enforced by the requests of her friends. Just outside the banquet hall is a smaller room where heavy wraps are tossed aside and bangs are coaxed into coquettishness. Few women, however famous and learned, having souls above the setting of their bonnets, the swing of their draperies and submission of their wind-tossed and rampant tresses, and continually re-enforced by the newcomers from this retirement, the larger room grows more and more crowded and bewildering. Diamonds flash and silks rustle, sleek tabbies go purring about the room, occasionally stretching their claws ominously and furtively; hens cackle and gabble over the particular addition they have made to the world's nest of eggs, and sometimes cackle loudest of all when they have laid 20 eggs at all; wise women look on with smiling faces from some secure corner and gather material for new work and magazine stories, and scheming women are whispering softly to their unsuspecting sisters concerning the new officers presently to be appointed.

Women have nice instincts and practical judgment in household economy, consequently the luncheon is served the first thing on the programme. "Never try to do

business or hold consultation on an empty stomach," said a woman, as she seated herself at the table; people are always unreasonable when they are hungry. I think if married women would remember that, there would be fewer misunderstandings between them and their husbands. They ought never to try to tell their husbands any grievance, present him with any bills, or enter into any arguments until after dinner. Then he will listen and use a little reason." "Yes, but Mrs. B. has a model husband," interrupted a lady near. "I know him because he's my husband's brother. He isn't a bit like my husband." "Well," continued Mrs. B., smiling a little, "I will say that we have lived together forty years next Thursday, and I am just as glad now to see him when he comes home as I was forty years ago. I don't mean to say that we always think alike on all subjects and never disagree. No. There are many subjects we never try to discuss. I don't nag at him and he never nags at me. That's all; and the reason we get on so nicely together is because I was not in too much of a hurry to get married, I waited until I found the right one. I believe there is a right one for every girl if she only finds him." And then all the unappropriated birdies and antiquated fowl who had failed to find a mate bridled, fluttered their feathers, flopped their wings, cackled harder than ever, and took a new lease of life. "I think some girls fail to find the right one because he isn't quite tall enough to suit them, or don't part his hair in the middle just to please them," said a woman with bright eyes twinkling under snowy hair. "To tell the truth, I came near doing it myself. I refused my husband three times before I accepted him." And then a big woman lunged into the argument with: "There are so many avenues of employment open to women now that girls are more particular in choosing husbands," and settled back into her place again, wheezing, while all the chick-a-biddies and venerable hens looked more conscious than ever, while a brown-eyed woman in a cardinal bonnet said: "Perhaps they ought to consider the suggestion my husband gives his men friends, when he says to them: 'You are expecting a faultless woman for a wife, did you ever think what the girl would get who married you? You're not exactly perfect, are you?'"

By this time all the people at the long table were seated, with the president at the head, the celebrities down the center and the guests at the foot. In another room the members of the club arranged themselves about the small table, clattering like sparrows. Pretty women, called custodians, fluttered around the table, introducing and serving people, and the revel began. Being a ladies' luncheon, of course its elements were bouillon, croquettes, patties, a salad, ices and cake; its active principle water, of which quantities were consumed with every course, and the conversation never ceased. On one side the talk was of the mighty Western Union Telegraph girls who were discharged for smoking cigarettes, and one of the old Sorosis members said: "I don't know why they should be discharged any more than the men," and on the other a woman was telling that she had no trouble keeping house. When some of her perplexed sisters inquired into it and found out that she had two old servants who had been with her for years, with two younger ones for extra occasions, and that she never went into her kitchen the wonder ceased. "What is Mrs. D——'s opinion on the subject?" said one, and another answered: "Haven't you known her long enough to find out that she hasn't any? I never had any fame or celebrity, but thank God I have opinions."

And so the stream of talk flowed on and on until the lunch was over, and the ladies gathered into the large room around a table behind which the president sat, mallet in hand, and the garrison-like features of her face bristling with figurative bayonets. Beside her Jennie June sat, nervously opening and shutting her fan, thinking of the speech she had to make. She has a strong, resolute face, with great intensity of expression and an extreme nervousness of bearing. Across

the table Alice Cary's favorite niece, the little "Lucy" of her writings, sat with a quantity of short curls beneath her bonnet and attended by a little maiden satellite with dark curls and a lavender dress. Mary Kyle Dallas sat at one side in a black satin dress, her smiling face framed in a black bonnet. She is a fair woman with blonde hair, just touched with silver, and a bright, intellectual face animated by an expression of constant interest in all about her. Marion Harland, Grace Greenwood and a host of other celebrities gathered about in conventional bonnets and gowns, scarcely distinguishable from the butterflies and bees of social and domestic life.

Not once, but many times, the little silver mallet struck the table, accompanied by the decided: "Ladies! ladies! order, order, please!" Before the silence fell and the roll was called some one sang a love song and Mary Kyle Dallas read a little original poem about "Cupid's School" in a sweet, low voice, with her little peculiar lisp.

"Mrs. Thomas! O, excuse me, Mrs. President," came from a far corner, "we didn't hear; please have her read it again. We don't know any more about love than we did before."

So Mrs. Dallas began to read again the lines that she said possessed one great merit, that of brevity. Still they could not hear, and at last, standing on the elastic springs of her chair, with what dignity she could muster and laughing like a school girl, she read the lines and the women ah'd and ah'd in concert.

There was some more love music, some sighing nightingale's ode to something or other, and then the serious business of the day began. It was a debate as to whether the condition of the workingwomen would be most benefitted by individual effort or legislation. The first speaker called was not a Sorosis woman, but one of the invited celebrities, with a bunch of carnations glowing on her breast and a silver king's daughters' cross gleaming beneath them. She was an impassioned, magnetic speaker, who pictured the wrongs and oppressions of working girls in touching, thrilling words. Half of the women in the room were in that delicious condition just preceding a burst of tears. There's nothing the average woman so revels in as pathos, and they were all thinking they never would wear a ready-made ruffled skirt again while women were starving while making. Then the ten minutes which limits a Sorosis speech came to an end, and cracking down upon the flowers of the speaker's eloquence fell the little silver hammer.

"Oh, please, Mrs. Thomas, let her finish—I'll give her my ten minutes," said a woman who had been talking all the time, and all over the room there were entreaties from the women.

Tap, tap, tap went the silver hammer, and "Ladies," came the clear, calm voice, "some one must move a suspension of the regular custom in this instance."

"I make that motion," shouted ten or twelve women, and "I second it," supplemented fifteen or twenty more.

So the speaker resumed. The ladies slowly dissolved into an ecstasy of tenderness. Little sniffs were heard here and there, and perfumed handkerchiefs fluttered fragrance as she concluded that the silver cross of the king's daughters was to close the breach between capital and labor. No one quite understood which side of the argument she supported.

The veteran debaters of Sorosis shook their heads ominously and fluttered their fans nervously. As old war horses champ the bit and paw ground while the enemy maneuvers, impatient that the fight does not begin, so they longed for the attack of the question itself in argumentative and parliamentary discussion.

Then a gentle, low-voiced woman of the "Kindly Club" read a long and beautifully written paper on protoplasm and the individual element in germ life, or star mist, or something of the kind. It was exquisitely written. The round, full phrases flowed smoothly on and on, like a broad, calm river, full of carefully chosen,

high sounding words and expressions, and, as near as could be determined, the efforts of the "Kindly Club" were to transform the wickedness of the employer to generosity. It was but a marshaling of troops, not the roar of musketry, and the old war horses champed the bit and fretted more than before.

"Why doesn't she touch on the question," gasped the president as she rose to call her to order, not realizing that she couldn't stop that torrent of words. It flowed on peacefully to the close.

Then another visitor with rarely practical ideas and thorough knowledge of the working women's condition talked as long as she was allowed, whereupon an old Soro-is member rose quietly, delivered herself of four sound ideas in less than forty words, and sat down. One after the other came the clear arguments cutting like sword thrusts straight at the knot of the arguments, and the war horses pricked up their ears and neighed in answer.

Then a pretty pink and white girl fluttered out on to the platform and began a speech which she had evidently committed to memory. She was brimful of inspiration, ecstasy and politics. She knew just how to set everything straight, although she was only twenty-two. She soared along on the wave of her argument like a bird on full-spread wing until suddenly bang went the iconoclastic hammer of the president, crashing into the pretty images of her fancy. She had touched on the doctrine of free trade, and all political discussion is prohibited in Sorois. She righted herself up again, and once more began to soar aloft when the sound of the mallet called her back to earth again. This time it was the land reform that laid her low. Said the president: "I am very sorry, but we do not allow party politics to enter into our discussions.

"But this is no land reform party," said the chairman of the debate, who was the speaker's friend.

"I must differ with you," said the president and firmly and decidedly she called the lady to order.

There was a buzz all over the room, indignant protests at the president's decision, equally indignant objection to the speaker's unfortunate allusion. In the midst of it all the girl herself was getting white about the lips and her cheeks and eyes were blazing. The dispute waged fast and furious and in vain the silver hammer rang out its warning sound, but never once did the president lose her temper, her dignity or her official smile.

At length a white haired Ulysses of the camp arose and said decidedly: "I must agree with the president in her decision and hope the meeting will come to order." The girl on the platform bit her lip, gulped down a sob, said with a ghastly attempt at a smile: "There is no land reform party now, but I hope there will be one soon," sat down on the edge of the platform and cried.

Then the trained war horses galloped to the front and fought it out among themselves. Sword flashed against sword, steel clashed against steel, ringing and striking fire every time and the dignified president came up like a conquering general, magnanimous but triumphant, begged everybody's pardon for the decision she had been obliged to make in conforming to the laws of the society, and left the field with flags flying and drums beating.

Meanwhile, in the corridors women wire-pullers were waylaying the unsuspecting, interviewing them with regard to the coming election, and doing the neatest, cleverest kind of lobbying as the ladies, with flushed, tired faces, wended their way homeward, wondering whether the workingwomen needed protection or not and which side they were on any way.

A MIXED TAP.—A well recently bored for gas at Pittsburg delivers fresh water, salt water and gas at the same time. There are two casings, one within the other; the outer one, 100 ft. down, taps a fresh water stratum, while the inner pipe reaches the salt water and gas at 200 feet down.

METALS.

INQUIRY INTO THE CAUSE OF THEIR METALLIC LUSTRE.

Dove was the first to attempt an investigation of the causes of metallic lustre. He had examined, by the aid of a stereoscope, two images of a pyramid, one being colored blue and the other yellow, expecting to find a relief image of a green color. He was, however, astonished to find that the mixture of colors gave a reflection like that of a polished metallic surface. Having repeated the experiment, using a black and a white image, he obtained the metallic gray of lead and tin. Dove concluded that metallic lustre is due to two reflections from superposed surfaces, and that the accommodation of the eye being different for each color, a perfect coincidence of the images of different colors was impossible. The lustre of metals would thus be caused by a reflection from the actual surface and another from beneath the surface. This explanation attributes a considerable degree of transparency to the metals—more, indeed, than seems consistent with fact. Brucke offered another theory, according to which the color of light reflected from bodies not possessing the metallic lustre should be independent of the local color—that is, the color of the reflecting body—while in the case of metals the color of the reflected light is that attributed to the substance, the incident light being white. Brucke also considered that a certain intensity of reflection was a necessary condition for metallic lustre, this intensity resulting from the opacity of the metals, and he mentions the phenomenon of total reflection as producing a perfect imitation of metallic lustre. The theories of Dove and Brucke represent opposing views of the transparency of the metals; the one considers them as opaque, the other as transparent. Herr W. Spring (*Bul. Soc. Chim.*, 50, 219) endeavors to reconcile these views by a study of the nature of the surfaces of the solids he has obtained during his experiments on the compression of solids within polished steel cylinders. He finds that substances which in the form of powder are opaque produce solids that have a metallic lustre, whatever the nature of the substance, while such substances as yield powders more or less transparent formed cylinders having vitreous surfaces, looking as if varnished.

COLDS AND CATARRHS.

CAUTION AGAINST EXPOSURE TO THE NIGHT AIR.

The following advice regarding the risk incurred through sleeping with the windows of one's apartment open is condensed from the *Buffalo Medical Journal*:

It may be safely asserted that the majority of colds need not occur, even in an uncertain and changing climate like ours, if people would understand and practice a few simple hygienic precautions. We cannot expect to discuss every hygienic rule in detail that would apply to each particular case, but we hope to present certain general principles which can be elaborated or reduced according to the needs of the individuals. Your attention is first directed to a custom, that may be called almost a natural one, and which we consider to be very pernicious. I refer to the habit of sleeping with the windows open at night when the external temperature is below a certain point. This custom is practically universal in this country, and is an important factor in accounting for the frequency among us of the catarrhal diseases of the upper air passages. I fail to find, either by observation or investigation, that any other people living in our latitude indulge in this custom. The people of Europe are very careful to prevent the external night air from entering their sleeping apartments. Their windows are double, and usually you will find a closed stove or fire-box in the same room, and, in many other ways, their houses are not as well ventilated as ours. We can derive many hints from the customs of the lower animals upon this subject. They seek to ren-

der the air, when sleeping, as warm as possible in various ways. When the temperature is below that of their bodies, they seek their dens, huddle together, or curl up so that the nose is placed close to the body. The birds even, whose native element is the air, when sleeping hide their heads beneath their wings or under their breasts. Instinctively they seem to appreciate that the body is in a state of least resistance during sleep, and that the air they then breathe should be properly warmed so as not to act as an irritant to the delicate lung structure. Besides the suggestions just made, the reasons for greater care at night or during sleep are not difficult to understand. We remove our warm clothing and put on that which is much lighter. We are not sure on retiring that the temperature will not be 20 deg., or more, lower in the morning. A slight restlessness will expose a part of the body to rapid cooling, which generally leads to the development of a cold. Again, the air must reach the lungs sufficiently moist and warm, or else it will act as an irritant and cause trouble. The nose is the organ where this is accomplished, but it is limited in its ability, and cannot raise the temperature of the air beyond a certain point. According to the experiments of Aschenbrandt and Kayser, the inspired air in passing through the nose can be raised about 40 deg. F., but no more. These experiments are quoted at length by Bosworth as confirmatory of his views on the physiology of the nose, first stated in a paper read before the American Climatological Association in 1885, and entitled, "Hay Fever, Asthma, and Allied Affections." It is, of course, not unreasonable to conclude that when all the vital processes are in a state of least activity, as, during sleep, the inspired air would not be raised even as many as 40 deg., though no experiments have been made in demonstration of this. Formulating a rule, however, on the basis of these facts, we can say that when the external temperature is below 65 deg. F. at nine o'clock in the morning, the windows of all sleeping apartments should be closed. This is the advice I have been accustomed to give patients for some time past, and it certainly has been a factor not only in relieving the chronic conditions, but in the prevention of fresh acute attacks of inflammation of the upper air passages. They will tell you they are much more comfortable on rising in the morning; the throat is less rough; there is less cough and less discharge. I believe that if this rule were universally followed "catarrh" would not be as frequent as it is. This part of the question may be concluded with a quotation from a paper by Dr. J. B. Johnson, of Washington, on this subject: "Even the most robust, who sleeps in the open air, frequently awake in the morning with a husky voice, dry nostrils, pains in the limbs, and uncomfortable feelings about the chest, to tell them that they took cold during the night, and to warn them against the risk and imprudence of letting the external air too freely into their sleeping rooms at night."

CARE OF THE HOUSE.

THE AESTHETICS OF SWEEPING AND DUSTING.

Our business is to consider sweeping and dusting from the usual point of view of carpeted rooms occupied by either a bed, a lounge, or sofa, as well as by other ordinary articles of furniture. An important part of good work is good tools to work with. A set of three covers, cotton or linen, as large as full-sized sheets, are an indispensable part of a housekeeper's outfit. With one of these cover the bed, after it is made, the lounge, or the sofa. Dust the small articles off carefully, and put them in an open clothes basket. Dust the chairs and movable furniture, and have them carried to another room. Then shake the curtains, and pin them up without folds. Brush the shades and roll them up to the top; open the windows and blinds wide, and dust them and clean them if necessary. If the mantel is covered with velvet or plush, paper may be laid over it

and pinned down, provided a cotton or linen cover is not at hand. A careful housekeeper will save the residuum of her teapot, day by day, and at this point will sprinkle the moist tea leaves over the carpet, allowing them to remain a few moments before beginning to sweep. If a box sweeper is used, the tea leaves will not only be unnecessary, but impracticable, as it takes up dust, not *debris*. The tea leaves should be simply damp, not wet, and no liquid be allowed to remain with them. The object of them is two-fold. First, to take up the particles of dust and prevent them from flying. Second, to freshen the appearance of the carpet. Short cut grass answers the same purpose, but the refuse of the teapot is usually more convenient. The ordinary broom is the best instrument made for sweeping a carpet. Use it from the shoulder, with long even strokes, not in quick jerks, sweeping toward the hearth. The carpet should be laid right for it, not toward the door, as the threshold is in the way of exit, and the dust lodges in the crevices between the floor and the carpet, and fills the halls. Gather up every particle that has been swept together, with dust brush and dust pan, and, while the room is "settling," with a little warm water, soap and a flannel cloth, wipe up the corners, window sills, the tiles of the fire-place, if there are any, and the hearth. Then brush the tops of the curtains, the valance, if any; take down the curtains, shake them and restore them to their position, and also remove the cover from the mantel-piece. Rub the mirrors, or framed glass, with a folded newspaper, and the glass and china ornaments with an old silk handkerchief kept for the purpose. Use a long feather duster for the pictures, and a piece of cheesecloth for dusting stands and light furniture. A piece of old cotton, oiled, should be kept for heavier articles of carved wood, walnut, or wood that is not varnished or veneered. The dusting and re-arrangements are part of the same process, and are done at the same time. There are always lights and positions in which certain things look best, and it is part of the beauty of life to have the details of our environment put into harmonious relations with each other. How can the ignorant understand this? It takes fine hands to do fine work, and a capable head to think out the best methods.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

February.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, pork.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose.

FISH.—Bass, cod, crabs, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish.

VEGETABLES.—Artichokes, beets, beans, cabbage, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, tomatoes, turnips.

FRUIT.—Apples, bananas, grapes, oranges.

PRACTICAL RECIPES.

PLAIN TOMATO SOUP.—Take a shin bone, have it broken, and put in soup kettle with five quarts of cold water; allow it to boil steadily and skim; in an hour put in four dozen of good-sized tomatoes; do not skin them; boil until your soup is reduced to one-half; take a tomato masher and crush the tomatoes; pass through a strainer; return to kettle, and remove the beef before serving; season with salt and pepper; canned tomatoes may be used.

BEEF TEA.—Take one pound of the best beef; cut it into thin slices and scrape the meat fine; put it with two-thirds of a saltspoonful of salt into one pint of cold water in an earthen bowl, and let the mixture stand two or three hours, stirring it frequently; place it, in the same vessel covered, on the back part of the range, and let it come very gradually to a blood heat and no more; strain it through a fine sieve or muslin bag, and it is ready for use.

OYSTER SAUCE FOR CODFISH.—One quart of oysters (when buying them ask for a little extra liquor), put over the fire, rub up pieces of butter size of small egg with two even tablespoonfuls flour; stir this in the oysters till dissolved; pepper and salt to taste, and on no account let it boil but more than an instant; the oysters must not be hard. This quantity is sufficient for eight pounds of fish.

VEGETABLE PIE.—Scald some Windsor beans; cut into dice young carrots, turnips, artichokes bottoms, lettuce, mushrooms, celery, and parsley, with green peas; onions and spinach may be added if liked. Stew the vegetables partially in gravy and season with pepper and salt. Trim the edges of a dish with parsley; put in the vegetables, pour the gravy over this, cover and bake. Cream or milk slightly thickened with flour and butter may be used instead of gravy.

BIRD'S-NEST PUDDINGS.—Pare, core, and cut three apples through the centre crosswise; place each half in a small, buttered mould; fill the centre with a mixture of boiled rice well spiced and sugared, and surround the apple with a custard. Put the small tins in a large one containing hot water, and boil slowly half an hour. Set the whole in the oven to brown slightly. When done turn out on dishes, let cool slightly, and surround each with whipped cream. Place in each centre three colored sugared almonds, and serve.

CHRISTMAS CAKE.—One pound of flour, half pound of currants, half pound of butter, half pound of sugar, two teaspoonfuls of Horsford's baking powder, three eggs, half pint of milk. Mix the baking powder thoroughly in the flour, then rub in the butter, add the sugar, currants and flavoring, beat the eggs and mix them with the milk, and after mixing them all thoroughly together bake in a papered tin in a moderate oven; flavor with lemon.

CREAM WALNUTS.—Two pounds white sugar, a teacupful of water, boil until it threads. Flavor highly with vanilla, take from the fire and stir until white and creamy. Have walnuts prepared; make the candy into small round cakes, press walnuts into the sides, drop in granulated sugar.

A CONTEMPTIBLE FRAUD.

We have been shown a bottle which bore the imprint and had originally contained Lea & Perrins' Worcestershire Sauce. This had been filled with a vile vinegary compound pretending to be a sauce, and labelled "Worcester Sauce," on labels bearing a close resemblance to the genuine Lea & Perrins' Worcestershire Sauce labels, and was put upon the market by a prominent Washington Street, San Francisco, canned goods house. As this house is quoted by the mercantile agencies as possessing considerable capital, it would seem that they ought to be above such a peacune business as buying up old bottles and selling them refilled with an inferior sauce under labels calculated to deceive the purchaser as to the true character of the contents. The deception will not work more than once, and must inevitably lead the duped purchaser to look with suspicion upon all other goods bearing the name of a house who would be guilty of such deception. It would not surprise us to hear of legal proceedings being commenced against this firm by the American agents for Lea & Perrins, and in that case the ruin of such a firm's reputation must be inevitable.

OPIUM SMOKING.

HOW THE DRUG IS PREPARED FOR USE.

The material used is Chandoo or Indian opium. Arrived at the manufactory the ball of Chandoo is cut in two, and the outside portion of the wrapper is thrown away, great care being taken that every portion having the smallest sign of opium upon it is carefully saved for further treatment. This crude opium has darkened in color with age [*sic*], and has by this time become a rich dark brown, almost black, about the color of Stockholm tar and of the consistency of putty. This is kneaded and beaten for three or four hours until an expert workman considers it tough enough for baking. It is then spread in a layer of three quarters of an inch in thickness over the bottom of a concave brass dish or basin, about two feet across and eight inches in depth. This is inverted for about half an hour over a charcoal fire in an earthen or brickware furnace the size of the rim of the pan, the operator continually turning the pan round to ensure an equal distribution of heat. These furnaces are very neat specimens of the potter's art, in shape very like the old-fashioned wooden wash-tubs that were made from the ends or halves of barrels. They appear to be made in segments bound together with iron bands. The brickwork is about two inches thick, the furnace is about two feet across and ten or twelve inches in depth, fitted with dampers, etc., for regulating the heat. The fuel used is charcoal, and the temperature of the room in which the boiling is done is like that of an oven, making an adjournment into the hot sun agreeable and cool in comparison. After exposing the cake to the heat of a clear steady fire for about half an hour it is nearly ready for the next process, and the skilled workman lifts it up and examines it very frequently. When his practiced eye tells him that it is done, he lifts it off and sets the dish on the edge. Then, taking hold of the upper edge, he tears off a thin sheet. It separates readily in the form of an immense wafer about eighteen inches across. It looks very like what the children in the Southern colonies call "brandy snaps," generally considered by school-boys to be a very delectable morsel. The pan is then returned to the furnace, and the process repeated till the pan is empty. The "wafer" is placed on an open wire grid and dried off over the fire underneath the brass pan. When dry and crisp the cake is taken from the grid and broken into small pieces in another brass dish. These small pieces accumulate until the baking is finished, when they are all put into the water to soak. The soaking reduces the cakes to pulp, and extracts nearly all the pure opium from it. The liquid is then poured into a pan for its final boiling. The residuum is washed and boiled until every particle of opium has been extracted. The liquid obtained from the different boilings of the residuum and of the wrappers is reduced by evaporation, and then added to the last boiling of the No. 1 stuff, reduced by this time to a very small bulk. After further inspissation, and when the extract is of the consistency of treacle, it is considered finished, and is then taken into a storeroom under bond, whence it is issued when the excise duty of 30s. per pound is paid on that required for home consumption. The whole process takes twenty-four or twenty-six hours to complete, and the opium requires to be stored for at least three weeks to mature and become fit for use. The Chandoo loses about 50 per cent. in the process. The opium is imported from China in small brass tins, about the size and shape of quarter-pound mustard tins, which hold about half a pound. On the present small scale this experiment is not expected to pay, but the Chinese firm referred to above is willing to pay a good round sum yearly for the privilege of manufacture, and hope, should they obtain it, to secure a large portion of the Australian opium trade. They intend to import Chandoo direct from Calcutta, and also to grow it in the Northern Territory.

Subscriptions \$1 per year. Now is the time to subscribe.

BACTERIA IN THE GLACIERS.—Dr. Schmelt of Christiania has found vast colonies of bacteria in the ice of the Jerstedalsbræ glacier and in the streams fed by it. They appear under the form of rods, and resemble the *Bacillus fluorescens liquefaciens*. During their period of growth these bacteria emit a fluorescent material. They multiply with great rapidity during periods of thaw.

WOODITE.—The material known as "woodite," devised by Mrs. Wood, a clever Englishwoman, promises to become a very useful substance. Its chief ingredient is caoutchouc. During the past few months it has given good results for a variety of purposes, and is now declared to be especially adapted for many other uses. According to Sir Edward Reed, M. P., it has been produced in divers forms, such as fine sheets and ribbons for waterproof articles, dense blocks for resisting the blows of shot and shell, and particularly satisfactory rings for engine packing. One process converts it into an elastic, sponge-like substance; and another, in which it is mixed with whalebone cuttings, gives it a rough or frictional quality, suitable for mats. Some curious naval applications have been worked out. It is made into armor plates, which, on being penetrated by a shot, close so tightly that no water is admitted; and it is formed also into light and convenient cylinders for carrying compressed air to drive lifeboats, torpedo-boats and scout-boats.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the "Handy Binder" for binding the ANALYST, because of the following advantages: It is elegant in appearance, strong, durable and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and

with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

BUSINESS NOTES.

WHAT SCOTT'S EMULSION HAS DONE.
OVER TWENTY-FIVE POUNDS GAIN IN TEN WEEKS.
EXPERIENCE OF A PROMINENT CITIZEN.

THE CALIFORNIA SOCIETY FOR THE
SUPPRESSION OF VICE.
SAN FRANCISCO, July 7, 1886.

I took a severe cold upon my chest and lungs and did not give it proper attention; it developed into bronchitis, and in the fall of the same year I was threatened with consumption. Physicians ordered me to a more congenial climate, and I came to San Francisco. Soon after my arrival I commenced taking Scott's Emulsion of Cod Liver Oil with Hypophosphites regularly three times a day. In ten weeks my avoirdupois went from 155 to 180 pounds and over. The cough meantime ceased.

C. R. BENNETT.

HORSFORD'S ACID PHOSPHATE
IN SLEEPLESSNESS

Dr. Henry Tucker, Brattleboro', Vt., says: "I have used it in several cases of sleeplessness, with very pleasing results."

WASHING CLOTHES.

Clothes to be made free from disease breeding microbes must be heated in water to at least 212 deg. Fahrenheit. Therefore, any directions which advises against boiling clothes are not given in the interest of clean, healthy clothes. Hot water is an absolute necessity, and all the exaggerated evil effects of hot water can be easily remedied or avoided, but cannot safely be omitted. No soap that is well made and does not depend upon fabric destroying chemicals can be thoroughly rinsed from clothes without hot water, and unless the soap is thoroughly removed the clothes will become stiff as a board. Use Pyle's Pearline according to directions on each package and your clothes will be clean.

Subscriptions \$1 per year. Now is the time to subscribe.

CALIFORNIA

Fine Table
Wines

From our Celebrated
Orleans
Vineyard.

Grand Harvesting & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, Agents.
C. JEVNE & CO., - - Chicago, Agents.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTER OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

Needs But a Moment's Thought.

Why not an improvement in the line of Soap? The Railroad—Telegraph—Telephone—Electricity—Sewing Machine, etc., are accepted with gratitude.

PLYLE'S PEARLINE is as great an improvement over soap as now seems possible. Millions realize this fact and use it. Let your servants use it—they will be better satisfied—so will you, and the clothes will not be rubbed, or eaten full of holes in the wash.

The woman who does her own work will welcome the saving of time and drudgery—fact is, a delicate woman can do a large wash—or clean house—with the aid of Pearline, work which otherwise would be utterly impossible. An economical, thrifty housewife must have PEARLINE.

Sold everywhere. Beware of imitations. JAMES PYLE, New York.



"PERFECT IN ALL ITS APPOINTMENTS."

Is what an old traveler said recently of the Sturtevant House, Broadway, cor. 29th Street, N. Y. Then its so central. Rooms \$1.00 per day and upward, with board \$3.00 to \$4.00 per day. Matthews & Pierson.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for **Dyspepsia, Diabetes, Debility & Children's Food**. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES**, Props., Watertown, N.Y.

LEA & PERRINS' SAUCE.

Lea & Perrins', the original and genuine Worcestershire Sauce, has been before the public over a half a century. Like all popular favorites it has long been the standard of comparison and the pattern for counterfeiters who not being able to imitate its excellence offer to the public imitations in bottling, labels and style of putting up. They dare not counterfeit the signature of Lea & Perrins which is on the red label of every genuine bottle, and of which this is a facsimile.

Lea & Perrins

To be sure of obtaining the genuine article, see that the above signature is on the label

LADIES' HOME COMPANION

A PRACTICAL HOUSEHOLD JOURNAL.

Now in its 16th year, well established, tried and true, as attested by a constituency of over Three Hundred Thousand Readers. The publishers, desirous of extending its influence into half a million homes, offer

3 Months Trial for Only 10 Cents.

10 cents (Silver or Stamps) will secure **SIX NUMBERS** of this charming periodical (all different), each copy equal in size, quality and amount of reading matter, etc., to regular illustrated papers that cost 10 cents a copy or \$4.00 per year.

The LADIES HOME COMPANION stands without a peer in literary excellence, typographical beauty, suggestive illustrations and helpful advice for every department of home life. It is beautifully illustrated, and printed on fine, cream-tinted paper, and has a more brilliant array of contributors than ever before, consisting of

8 Regular Editors and Scores of Eminent Writers,

Whose facile pens will furnish **Short and Continued Stories** of absorbing interest, while all branches of household economy that can possibly come within the good housewife's province will be ably treated by experienced editors, and use, beauty and refined entertainment have due attention.

PRACTICAL HOUSEKEEPING.

This department is a well-spring of valuable suggestions for every branch of housekeeping, including a large variety of tested recipes, and how to prepare them at the least expense, in dainty and appetizing forms; also, hints for table decorations, methods of work, etc., and much practical information, covering the entire range of household work, treated in such manner as to interest every housekeeper.

FANCY WORK.

In these departments elegant illustrations and plain directions are given, showing how to make all kinds of fancy work, embroideries, needlework, crocheting and knitting; also suggestions for ornamenting Parlors, Bedrooms, Dining-rooms; arranging and Decorating Furniture, Curtains, etc., so that homes may be adorned with taste, and made attractive with little or no outlay. Instructions will also be given that will enable any one to make many useful and ornamental articles, such as Wall-pockets, Brackets, Fancy Leather-work, Work-boxes and Baskets, Fancy Work with Leaves, Flowers, Grasses, etc.



FASHIONS, Or, WHAT TO WEAR AND HOW TO MAKE IT. Artistic illustrations are always found in this department, with descriptions of the newest and latest Styles and Novelties in Ladies' and Children's Dresses, Hats, Bonnets and other garments, with directions that enable one to dress well and economically. The very finest illustrations are used to make everything plain, so that ladies can make their own dresses, trim their own Hats and Bonnets, and dress themselves and their children with neatness and taste, in the prevailing styles. Each copy of the Ladies Home Companion is worth more than a year's subscription to every young lady and married woman, for this department alone.

MOTHERS find the portion devoted to them invaluable, and filled with a wide range of helpful suggestions obtained from practical experience relating to a mother's duties to her children, how they should be reared and cared for in sickness and in health; also suggestions and illustrations for all kinds of children's garments and many other necessary things.

FLOWERS. The Floral Department is a treasure to the amateur florist and all who love flowers, containing much of interest to those who raise flowers, whether for pleasure or profit.

OCCUPATIONS FOR WOMEN. Women can make money in many ways, and the opportunities for women to become self-supporting are constantly increasing. The Ladies Home Companion aims to keep women informed in reference to those things that wives, mothers and single women are going to earn money, while in all its departments it is the most complete, most readable and

Most Fascinating Ladies' Paper Published.

TOILET.—Recipes and hints for care of hands, face, teeth, eyes, hair, etc., color and harmony in dress, etc.

ETIQUETTE at home and abroad, at the table and on the street, at public gatherings, etc.

CHILDREN'S CORNER sparkles with interesting sketches and splendid stories for wide-awake boys and girls, while an opportunity is given to develop their mental powers by solving puzzles, charades, enigmas, etc., for which prizes are offered.

DEPORTMENT.—Rules, usages and ceremonies of good society, letter writing, good manners, the art of conversing well, accomplishments, home training.

SEASONABLE BILLS OF FARE are given, with plain directions for the economical preparation of healthful, nourishing and palatable dishes, with hints for serving, arrangement of table, reception of guests, etc., etc. Also menu for parties, teas, receptions, Thanksgiving and Christmas dinners.

So popular have our publications become that more than a million people read them regularly.

Mention this paper and address **LADIES HOME COMPANION, Philadelphia, Pa.**



FOR THE THIRD TIME

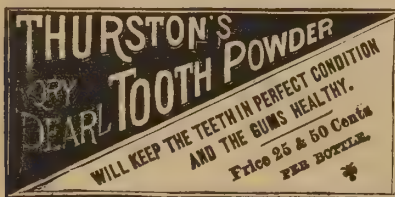
in our history we have been forced to move into larger quarters to keep up with the demand from our New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade. We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the Famous Custom-made Plymouth Rock \$3 Pants, first, send 6 cents, for which we will mail you 20 samples self-measurement blanks, and then tape measure, provided you MENTION THIS PAPER, or if you cannot wait for samples, tell us about the color preferred, with waist, inside leg, and hip measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. Remember, also, that we make to your order, Full Suits, \$13.25, Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.



MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no re-constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end what to do.

J. MILNER FOTHERGILL.

"Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only THREE possessed the power of acting on starch. These brands were MALTINE, Corby's, Stacey & Co's Extract, and Keppler's Malt Extract."

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain). MALTINE with Phosphates, Iron Quinine, and Strychnine.
MALTINE with Alternatives. MALTINE Ferrated.
MALTINE with Cod Liver Oil. MALTINE with Hypophosphites.
MALTINE with Peptones. MALTINE with Peptones.
MALTINE with Peptones and Pancreatine. MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

34 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.

FACIAL BLEMISHES.



The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Fitting, etc., and their treatment. Send 10 cts. for book of 128 pages, treating on 25 skin imperfections, 6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,
210 West 42d St., New York City, N.Y.
Inventor of Facial Appliances, Springs, etc.
Six Parloirs; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK. WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS.

NEW PROCESS

GORDON & DILWORTH

563 & 565

TABLE DELICACIES

GREENWICH ST.

NEW YORK

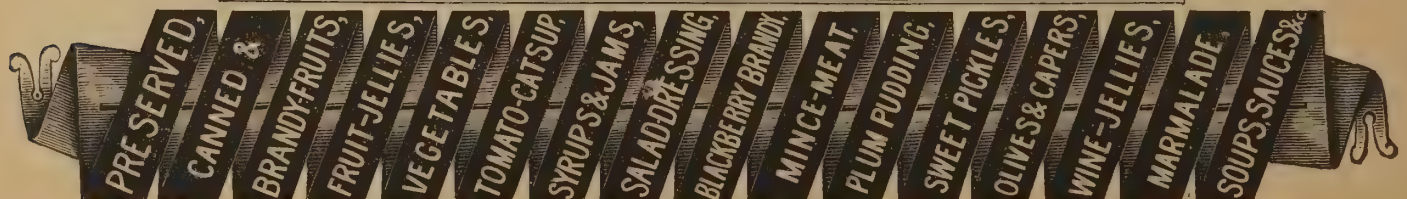
OLIVES CAPERS SALAD DRESSING

MINCE MEAT PLUM PUDDING

CHOICE OF DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

3 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,
75 William Street, N. Y.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association.....	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal.....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		
Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal.....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly).....	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.*

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

A CURE

FOR

Sick and Nervous

HEADACHES.



ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.

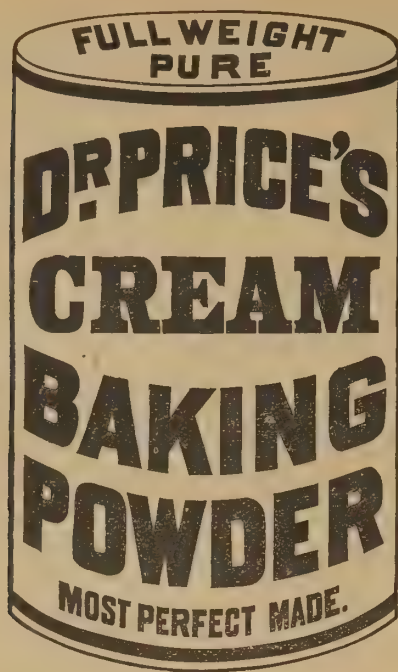
Pure
LAGER BEER

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES
BY

Beadleston & Woerz
291 W. 10th St New York.
Orders by Postal Card
promptly attended to.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

**DEAN'S PATENT
ARDENTER MUSTARD.**

BEST IN THE WORLD.

WARRANTED
ABSOLUTELY PURE.



WARRANTED
ABSOLUTELY PURE.

Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88

North Moore Street, New York.

COLDEN'S
LIQUID
BEEF TONIC.

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN). It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

Subscriptions \$1 per year. Now is the time to subscribe.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 10.

NEW YORK, THURSDAY, MARCH 7, 1889.

WHOLE No. 106.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

An Evil and Foolish Law.....	111
Beef Inspection Laws Defeated.....	113
Domestic Dietetics.....	113
Editorials.....	109
Electrical Progress in New York; Postal Service of the Metropolis; The Paris Exposition; Pure Food Prospects; A Brewers' Academy.	
Electro-Plating.....	110
Orange Culture.....	112
State Inspection Laws Defeated.....	113

ELECTRICAL PROGRESS IN NEW YORK.

We had occasion recently to comment approvingly upon the project for adding a special course of instruction in electrical science to the post-graduate department of Columbia College. The *School of Mines Quarterly* of that institution, discussing the same subject, dwells with truthful emphasis upon the fact that New York is particularly the home of electrical capital and invention. She has more telephones in her business offices than are to be found in most European kingdoms. She has more electric lighting than any other city in the world. One of her companies—built up by Columbia boys—has more motors running in the down-town districts than are to be found in all England. She is the headquarters of the largest telegraph system in existence. She is the centre of the leading electric railway work, and the territory that is commercially hers teems with electrical industries of every character. In fact, while America is, by the generous admission of such critics as Professor Ayerton and Professor Forbes, the land where electricity has attained its greatest development, and is, as the London *Electrical Review* remarks, the country that is leading the way and setting the example—New York, beyond all rivalry, is the one city where all the new ideas, new systems and new inventions can be best studied as they require to be, moulded

by the stress of daily use, and subject to the incessant improvement that comes with every increase of knowledge. Under these circumstances, and without in the least forgetting the good work that has already been set on foot in other places to promote the interests of electricity as a technical profession, it is but natural that we should be pleased with the action of Columbia College.

POSTAL SERVICE OF THE METROPOLIS.

Some idea of the vast amount of matter which passes through the New York City post office may be gained from the following statistics: Last year there were 128,131,755 letters, 32,310,025 postal cards, and 35,943,203 miscellaneous packages delivered during the year by carriers, and 52,994,536 letters, 8,519,869 postal cards, and 30,995,086 miscellaneous packages through boxes, making a total of 287,994,464 pieces in all. In the registered letter department, there were 1,317,168 pieces delivered, and 1,049,029 pieces of domestic and 453,850 of foreign origin recorded and distributed to other offices. At the general post office, 1,095,915 money orders were issued and paid, amounting to \$10,230,895.50, and 783,872 postal notes, amounting to \$1,263,378.79. At the sixteen branches the number of orders issued and paid was 220,144, amounting to \$3,250,961.10, and the number of postal notes 88,311, amounting to \$174,476.66. The aggregate business of the money order department for the year amounted to \$87,299,158.95, giving an increase in the business over the previous year of \$4,788,347.21. The total receipts of the office were \$5,162,968.81, and the total expenditures \$1,891,982.48 (including \$802,017.91 expended for free delivery service), giving a net revenue of \$3,270,986.33. The receipts for the last quarter of the year aggregated \$1,458,585.27, an increase of \$121,034.65 over the receipts of the corresponding quarter of the previous year. There were sold during the year 178,218,226 postage stamps, equal in weight to thirteen tons net, 35,302,500 government stamped envelopes, and 46,437,150 postal cards. The total weight of mails received and dispatched daily during 1888 was 248 tons.

THE PARIS EXPOSITION.

It is gratifying to American pride to learn, through *Science*, that the United States will make a creditable display this year at the Paris Exposition. And this is as it should be; for, although nominally a universal exposition, it will be practically a display of the products of republics. The monarchies of Europe will be represented only by private exhibits, while the republics of North and South America have rallied in force. The United States Department of Agriculture will make a splendid showing. Secretary Colman has placed the undertaking in the hands of Professor C. V. Riley, the famous entomologist, an energetic organizer as well as a careful and enterprising scientific observer; and Prof. Riley has already sent forward three carloads of prod-

ucts, which are on the way to France in charge of Mr. F. T. Bickford, an assistant. The bulk of shipments are nearly through with, and the perishable staples will follow during the next month. Congress appropriated \$250,000 to aid exhibitors, and Secretary Colman's quota of this will insure the best illustration that the agricultural resources of this country have ever had on the continent of Europe. Various branches will be represented, as follows: Fruit, Prof. VanDeman and Prof. George Hussman; grain, George N. Hill, St. Paul, Minn.; cotton and fibres, Col. James A. Benford, Duck Hill, Miss., and Charles R. Dodge, Boston; tobacco and peanuts, Alexander McDonald, Va.; agricultural education and experimental stations, W. O. Atwater, Department of Agriculture; vegetables, including hops, M. G. Kern, St. Louis; entomology, including apiculture and silk culture, C. V. Riley, N. W. McLean of Hinsdale, Ill., and Philip Walker, Department of Agriculture; sorghum and other sugar plants, H. W. Wiley, Department of Agriculture; forestry, B. Fernow, Department of Agriculture, and M. G. Kern of St. Louis; grasses and forage plants, George Vasey, Department of Agriculture; meat products, Dr. de Salmon, Department of Agriculture. All articles for exhibition will be forwarded free from New York, and no charge will be made for space in Paris. Prof. Riley has put forth unusual exertions to get the exhibit on the road, and he looks forward with much enthusiasm to the result. He will not leave for Paris till the first week in April.

PURE FOOD PROSPECTS.

According to the *Grocers' Criterion*, the recent Pure Food Convention in Washington does not seem to have been much of a success, and was not very largely attended, hardly any mention of it at all being made by the press. It looks very much as if the movement was likely to die out at an early day unless Congress should be prevailed upon in some manner to take it up and enact effective adulteration laws. The best move in that direction would be a bill to prevent the importation of foreign commodities which are not up to the standard of purity requisite for their commercial handling in the countries where they are manufactured. Relieve our own manufacturers from the competition of cheap foreign frauds, and at least one powerful inducement to sophistication will be removed.

A BREWERS' ACADEMY.

We take pleasure in announcing the establishment in this city of an institution for the practical as well as the scientific education of brewers, under the capable management of Dr. Francis Wyatt, who is widely and favorably known as the consulting chemist of the AMERICAN ANALYST. Dr. Wyatt is an expert brewer, a technical and analytical chemist, Doctor of Philosophy, Brussels University; Engineer of Arts and Manufactures, Central School of Paris; Fellow of the Chemical Society, England; and a well-known contributor to the scientific

F. W. DEVOE & CO.,

ESTABLISHED 1852.

PURE MIXED PAINTS

WE desire to call attention of consumers to the fact that we guarantee our ready-mixed paints to be made only of pure linseed oil and the most permanent pigments. They are not "Chemical," "Rubber," "Patent," or "Fireproof." We use no secret or patent method in manufacturing them by which benzine and water are made to serve the purpose of pure linseed oil. Sample cards containing 50 desirable shades, sent on application.

Catalogues of our different departments to responsible parties.

FINE VARNISHES, WOOD FILLERS, WOOD STAINS.

Artist's Materials.

Mathematical Instruments.

Cor. Fulton and William Sts., New York.

COFFIN, DEVOE & CO.,

179 RANDOLPH STREET, CHICAGO.

press of this country and Europe. We learn that he will be assisted by Dr. Carl Rach, Doctor of Philosophy, Wurzburg University, Germany. Students will have, under the experienced tuition of Dr. Wyatt and Dr. Rach, a full theoretical, analytical, practical, working and experimental course in such branches of chemistry and physics as relate directly to the science of brewing ales, lager beer and porter in every modern development. The institution will afford to brewers of ale and lager beer throughout the country the facilities of a well-appointed and skillfully conducted laboratory, in which practical experimental brewings will be daily made, and where all descriptions of raw material and finished product of every kind may be critically examined and conscientiously reported on.

ELECTRO-PLATING.

HOW METALS ARE MADE TO RESEMBLE SILVER.

When a current of electricity is passed through water, decomposition of the liquid takes place, and bubbles of hydrogen gas appear at the negative pole and oxygen at the positive. Like many other electrical and chemical phenomena, we cannot explain this action, but only know that it is so. Likewise, if the electric current is passed through a solution of a salt of copper, silver, gold, nickel and many other metals, the salt is decomposed, the acid element set free at the positive pole or electrode, and the metal deposited upon the negative one. If, instead of the usual wire for conveying the current into the solution, we use a metallic vessel or utensil, the metal will be evenly deposited over the entire surface, or, by using a mould covered with some substance that is a good conductor of electricity, we can obtain a perfect copy of it in the deposited metal. This electrical deposition of metals has become a very large and important industry. By means

BURNETT'S

PERFECTLY
PURE
Standard — Flavoring
HIGHLY
CONCENTRATED

EXTRACTS

of it we can cover the cheaper metals with a brilliant and unoxidizable coating of gold, silver, nickel or any desired metal. Nearly all the plated ware in use is made by this process, the practical details of which may be of interest. In plating with silver the liquid used is a solution of chloride of silver in cyanide of potassium. A large vessel is filled with it, and the article to be plated suspended in it from a copper rod laid across the top and connected with the negative pole of the source of electricity. To a second copper rod, connected with the positive pole, plates of silver are attached and also immersed in the solution. As the silver is deposited at the negative pole, more silver is dissolved from these plates by the acid set free at the positive pole, and thus the strength of the solution is kept constant. It is necessary to clean the article very carefully before immersing in the plating solution, as the slightest trace of dirt or grease would interfere with the regular disposition of silver and render the work imperfect. This is effected by numerous scourings, brushings and dippings into acids and alkalies. The source of the electricity was formerly the galvanic battery, but the recent improvements in electric dynamo machines have rendered them especially applicable to this work, and they are rapidly supplanting the old-fashioned voltaic cells. When everything is ready, a very strong current is sent through the plating solution, for the purpose of quickly depositing a thin layer of silver. This process is called "striking," and after it is effected a weaker current is used and the silver deposited more gradually. The current is continued until the required weight of metal is deposited, according to the thickness of the plate desired. An ingenious arrangement is in use by which the articles to be plated are suspended from one arm of a balance which forms a part of the electric circuit. The balance is weighted according to the amount of silver desired, and as soon as it is deposited the beam turns, breaking the circuit and stopping all action at once. When the plated articles are first removed from the solution they do not show the familiar lustre of silver, but the finely divided metal upon their surface gives them a dead white appearance like porcelain. This is easily removed by polishing and burnishing wheels, and the bright "electro-plate" is ready for the work of the engraver or decorator. Gold and nickel plating are done by practically the same process. A solution of chloride of gold in cyanide of potassium is used for

THE superiority of these Extracts consists in their PERFECT PURITY AND GREAT STRENGTH.

There is no subject which should more engross attention than the purity of the preparations which are used in flavoring the various compounds prepared for the human stomach.

They are not only true to their names, but are prepared from fruits of the best quality, and so highly concentrated that a small quantity only need be used.

JOSEPH BURNETT & CO., Boston, Mass.

gold plating, and a small plate of gold instead of silver is suspended in the solution at the positive pole. Nickel plating is a more recent invention, but is effected in the same way, and has become an immense and profitable industry. It is equal to silver in beauty and brilliancy, and has superior resistance to those impurities in the air which tarnish and discolor the more expensive metal. Electrotyping is a modification of the same process, by which any number of reproductions of a "form" of type can be obtained in a solid block of metal, thus saving the wear of the type and allowing it to be distributed and used for other work. After the type is set up into a "form," a wax mould is taken of its surface. The face of this mould is dusted with finely powdered graphite or black lead, to render it a conductor of electricity, and it is then suspended in a solution of sulphate of copper, so as to form a part of an electric circuit. Metallic copper is deposited upon the face of the wax mould, giving a perfect reproduction of the original form of type, and when it has reached the requisite thickness it is removed, strengthened with a backing of type metal and mounted upon a block of wood or metal ready for use in the printing press. This process is a very cheap one, and where a large number of copies are to be printed prevents the rapid wearing out of the expensive type. Wood engravings are always printed from these electrotype reproductions, as the soft wooden block would be rapidly destroyed in an ordinary printing press. In the process of stereotyping, the plates are cast directly in type metal from a mould of the original type in plaster of Paris or paper pulp, but, except in the case of daily newspapers, or for inferior work, the electrotype process has nearly superseded it. —Pop. Science News.

STEEL SPIKES.—A New Castle (Pa.) dispatch says that a series of experiments were tried at the Etna Iron Works on January 7 in the manufacture of steel railroad spikes. The object is to make a finished article by rolling the bar so that its width will be the length of a spike and in such a shape that the spikes may be cut from it with shears, pretty much as a cut nail is made, except that the head is formed in the rolling process. The first test was made by running through some steel rails that had been slowly heated for two and a half hours. The result was fairly successful, and it is thought that a few changes in the rolls will make the operation entirely satisfactory. Should the scheme be successful, it will work a revolution in the cost and manner of making railroad spikes.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

AN EVIL AND FOOLISH LAW ASKED FOR.

LEGISLATION SOUGHT TO ENABLE BUTCHERS TO SELL
POOR MEAT AT HIGH PRICES.

AN ACT

*For the better protection of local producers of, and dealers
in, iron and steel.*

"It is hereby enacted that, on and after the passage of this act, no iron or steel shall be sold, or offered for sale, within the State of New York, that has not been made from ore produced in the State of New York, and inspected and approved at the place of its reduction and conversion, which shall have been within the State of New York, by local inspectors who shall be appointed by the Boards of Supervisors of the respective counties in the State of New York."

LOOK'S RIDICULOUS, DOESN'T IT?

But it would not be any more absurd, antagonistic to the public interest and unconstitutional, than the fool law that a certain organized gang of local butchers are now exerting themselves to have enacted by each of the legislatures of the Eastern States. What a splendid thing such a law as that would be for owners of iron mines in this State! and for local manufacturers and dealers in iron and steel, who could then fix prices just to suit themselves! and for the inspectors, who should of course have good salaries! Every argument used by the advocates of the proposed law to compel local inspection, on the hoof, of all animals to be slaughtered for food, would apply with equal force in favor of such a law to limit and control our supply of iron and steel. And every consideration that would brand as wickedly injurious and unwise such a sweeping measure for the benefit of local iron men, stamps as a like character the pernicious bill for the selfish profit of the butchers.

In the interest of consumers, we protest against such outrageous legislation; and, that there may be no misunderstanding of the character of the measure, and the inevitable consequences should it, through almost inconceivable unwisdom of legislators, anywhere become a law, we propose to state clearly the facts involved and to expose the false and fraudulent pretences employed in its advocacy.

A large portion of the meat now sold at retail in all parts of the country is slaughtered in Chicago and supplied by refrigerator cars to the various points where it is required for local consumption. In this there are several very great advantages. Chicago is one thousand miles nearer to the natural sources of beef supply than is the Atlantic seaboard. Beef is specified, because that is the main thing over which the present fight is made. As merely an economic measure, it is manifestly wisest to convert crude material into a manufactured article, as in the transformation of a live steer into dressed beef, at as near a point to the place of production of the crude

material as is practicable, with due reference to facilities for the process and for marketing of the product. The Southern Californian ostrich grower, who should send his birds by rail to New York to have their plume feathers clipped for the market, and then haul them back to his ranch to grow more plumes, would probably be looked upon as a new and surprising kind of idiot. But he would be little worse than the man who would see it a good business-like proceeding to pay heavy freights on unnecessarily hauling for a thousand miles the offal and other almost valueless material of a live steer. But there are other considerations, more important than economy, against the transportation of the living animal to any greater distance than is absolutely necessary. Long travel exhausts the animals greatly, causes them to lose weight to a surprising degree, and induces such fevered conditions as render them exceedingly unsuitable for human food unless they can have, for rest, quiet and recuperation, far more time than the interest or even the business necessities of slaughterers in the East could ever allow them. Several days are always allowed in Chicago for animals coming from Iowa, Kansas, Nebraska, Texas, and other points of supply in the West, to regain their normal condition before they are slaughtered, and that although they are transported in "stable" cars, under such conditions of care for their comfort as were entirely unknown prior to the establishment of the great "dressed beef" industry. But were one thousand miles more of travel to be endured by them, they would at the end of the journey require weeks instead of days to recuperate, which of course could not, or at least certainly would not, be given them.

The business necessity for protecting the enormous capital invested in the "dressed beef" trade is of itself a sufficiently powerful consideration to compel those interested in it to the employment of every possible safeguard. They have made their trade by the thoroughness of their system and the consequent excellence of the meat they have uniformly supplied to their many thousands of consumers. And upon the maintenance of that standard of quality, together with their reasonable prices and reliability of supply, depends their continued success. How absurd then is the mendacious howl of the Butchers' National Protective Union, that "Chicago dressed beef comes from poor and diseased animals." Even if the "dressed beef" men were rascals, they would not dare to imperil their large interests by the petty dishonesty of supplying poor meat instead of good to their customers. Naturally, the profit in such substitution suggests it as a tempting business idea to the Association, and their mouth, Mr. Brokate, may possibly be unable to comprehend why it would not commend itself to others. But the dressed beef men would have to be fools, as well as knaves, to resort to it, and their present position sufficiently demonstrates that they are far from being fools.

There are in active competition in Chicago four large concerns, engaged in the dressing of beef for the general market, and they buy their cattle from no less than ninety-one competing commission firms and dealers in cattle, who are all in business at the Chicago Stock Yards. For the protection of its millions of dollars invested, the Stock Yard Association is necessarily extremely rigid in requiring careful inspection of all cattle received there—as all reaching Chicago must be—and the rejection of such as are in the slightest degree unfit for food. The competition between the sellers of the live cattle enables a still further sorting out of all that are not of absolutely the best quality. Finally, the rivalry between the dressed beef firms carries selection to the extreme point, beyond all that is practicable in dealing with the living animals, to the careful inspection of the meat before it is shipped. At the stock yards are three skilled inspectors, not selected for their political "pull" and "influence," as the horde of local inspectors contemplated by the butchers' bill would inevitably be, but experienced and conscientious men who know all that is to be known of their business and are

inflexible in the discharge of their duty. Every animal that passes through the stock yards must have their approval or it can only be utilized for hide, tallow and fertilizing material. Then the dressed beef firms employ as buyers men in whom they individually have confidence as even more exacting judges than the official inspectors are. And yet another inspector is employed by each firm, whose special scientific skill is in the detection of disease or other unworthiness in meat, and every individual quarter of dressed beef must pass under his carefully critical examination on its way from the refrigerating rooms to the car upon which it is to be shipped to consumers; and if it is not above all question he condemns it and sends it at once to be made into fertilizer. The Mouth, already referred to, speaking for the B. N. P. Association, has affirmed loudly that the great reason why they demand the local inspection of live animals is because it is impossible to tell if dead meat is from an inferior or diseased animal or if it is not. But that is a foolish falsehood. The quality of meat and the diseases that may have affected it during life can only be told with accuracy when it may be critically studied as dead tissue. Indeed, specific maladies of the most serious nature as affecting the food value of the meat can be told in no other way. Can the *trichine spiralis* be discerned in the grunting porker? Decidedly not. It is only when his flesh can be got at with the scalpel and the microscope that his infesting myriads are discoverable. So, too, with other dangerous germs sometimes concealed in animal tissues. In fact there is no disease that renders an animal unfit for human food that does not leave its traces or its bacterial causes in the flesh and easy for demonstration after death. As for not being able to tell merely poor, stringy, juiceless or tough meat after it is dressed, from meat that is in all ways good; well, every intelligent housewife ought to be able to do that. And that the intelligent housewives, and meat eaters generally, do exercise such discrimination, and consequently prefer Chicago dressed beef to the sort of meat the B. N. P. Association would like to be able to restrict them to, is just what inspires the butchers' howl for a protective law against competition.

And this brings us to contemplation of another "nigger in the woodpile," or, in other words another reason that the butchers have for antagonizing so bitterly the dressed beef industry. Before this system of supply was established, a proportionately few local butchers, in each town and city, had practically a monopoly of their business, and were enabled to hold prices up at any figure they pleased. An enterprising fellow might have the good idea of building up a business for himself by charging a little more reasonable figures than they chose to maintain, still ensuring himself a fine profit, but if he attempted it, a concerted movement by his rivals would compel the slaughterers to cut off his supplies of meat. He might get it from a distance, but added cost and inconvenience would make that a losing game. He might, if rich enough, slaughter on his own account, but the disproportion of cost to product in hauling such small numbers of cattle as he only would be likely to require, the loss on "rough meat," lack of facilities for economic utilization of the offal, etc., etc., would altogether put him at such great disadvantage that success would be improbable, if not impossible. And, if necessary, they could afford to undersell him long enough to break him. But, introduction of "dressed beef" has knocked the bottom out of that tub in which they so gaily swam. Now, with this source of supply, a man with a small capital may enter into competition and be always secure of having a supply of the very best meat, in perfect independence of the established butchers and the local slaughterers they control. Thousands of small butcher shops have been started in this way to the great convenience and advantage of the public, that would have been simply impossible but for the Chicago dressed beef supply. And this, to the would-be monopolists, is a thing most horrible and not to be endured." So grievously do they feel it that they want

a law passed to forbid the continuance of such a state of affairs. In effect they say to the community: "Have some consideration for us; tie your hands in order that your struggles may not interfere with our picking your pockets."

A fallacious argument with which the butchers are seeking to beguile the rural members of the Legislatures into supporting the mischievous law they beg for is, that by excluding the dressed beef from other States a greatly increased demand for locally raised beef, at advanced prices, will be compelled. If the gentlemen from the rural districts will ponder upon the situation as it is and the consequences of excluding competition from this field, they will hardly be so easily deceived as the butchers hope to see them. It needs no argument to demonstrate that cattle can be raised on the vast grassy plains of the far West—where land is comparatively valueless, and winter-feeding, if resorted to at all, is a mere trifle compared to what it necessarily is in the East—at far less cost than they can anywhere in the Eastern or Middle States. And, with the improvements in stock that have been made in the West in late years, there is now no such difference in the quality of the cattle raised there from those grown in the East as will offset in the market, in favor of the latter, that greater cheapness of production of the former. Now, is it rational to imagine that these butchers, when they have the protection of a law that shuts out all competition from abroad, will, for any sentimental regard for the Eastern cattle raiser, pay to him five or six dollars per hundred for cattle—which is as low as he can afford to produce them—when they can buy Western steers for three dollars per hundred? Of course not. The astute butcher will buy where he can get the cheapest and will take care to sell the dearest that he can. What will it matter to him if the Western cattle have, even when they started, been inferior to the Eastern? or, that his absolute control of the market has enabled him to force down prices so that the Western cattle-grower is compelled to send on his animals in the cheapest way possible, and, consequently, in the worst condition for food when they reach the local slaughterers? Those are considerations that it may amuse the consumer to reflect upon, but they cannot concern the lordly butcher who leans his back against the "no competition law, and, slapping his paw upon just the kind of meat that it pays him best to sell, offers the alternative: "This, or none." He would very probably sell less meat, but in the increased prices that he would be able to command from those who could afford to pay and would endure his yoke, he would find equally large revenues and with the advantage of having to carry less invested capital in his business. If now he complains and cries aloud for protection against competition when he sells for \$93.12 a 750 lb. carcass that cost him \$52.50, what in Heaven's name will he be satisfied with when he gets the law he is after? And the Eastern cattle-grower need not be deluded with the hope of an export trade keeping a good market open for him. Without the large field of consumption afforded by general sales throughout the country, it would not pay to carry on the business of dressing beef for the export trade alone; particularly when the impression became general abroad that our beef was so universally bad that each State had to pass laws to protect its citizens against the pernicious beef of all other States.

All that we have said is exactly and literally true. There is absolutely no consideration whatever for the interest of consumers, or of Eastern cattle-growers behind the urgency that is pushing this rascally measure before the several Legislatures at the present time. It is to serve nobody but the grasping and conscienceless butchers, who having failed in all other endeavors to exclude dressed beef from the market by misrepresentations and calumnies, now hope to attain their end by a law that under the shallow pretext of protecting consumers by requiring inspection of live animals at the place where they are slaughtered, in the State, shall re-establish their old-time monopoly. It is hard to con-

ceive how any honest man, not a jibbering idiot, could vote for the enactment of such a law.

It is not important of consideration from our present standpoint—which is simply the advocacy of good food material at reasonable prices, in the interest of consumers—but it is at least worth mentioning, that the appointment of the horde of inspectors necessary to carry such a law into effect would impose a heavy burden upon the already over-laden tax-payers, and that as these inspectorships would inevitably be rewards for political services rendered, or inducements for services to be rendered, neither capacity nor integrity of the highest character could reasonably be expected from the incumbents.

Happily the enactment of such a law would be little likely to have any other permanent effect than its erection as an enduring monument to the foolishness of those who voted for it, as its unconstitutionality would speedily be declared by the Supreme Court. No State has the power to enforce laws interfering with interstate commercial rights or to discriminate injuriously against, proscribe and exclude the products of other States. That sort of thing has already been tried by several Western and Southern States, and even by municipalities, in the imposition of enormous license fees upon commercial travelers, but the supposed right to fleece those enterprising missionaries of trade has been declared unconstitutional and the claim to it has been abandoned. Could such laws be enacted and enforced, the vistas of possibilities, in the way of retaliatory legislation by the several States against each other and the legitimate evolution of the system into each city and town lifting its Ishmaelitic hand against its neighbor, would be simply dazzling. Pass that law in New York State and it would shut out at least half our supply of meats, which come from New Jersey and Connecticut. Would not New Jersey be justified in promptly establishing a custom-house of her own at each ferry and imposing a tariff on everything sold over there by New Yorkers? Her interstate tariff would be no worse than our anti-competition-in-beef-supply law. And it would not be without precedent. The States of Venezuela impose taxes upon each other's products. So do some African tribes adjacent to each other, it is said. Tariff is a great thing. Once begin applying it and, as DeQuincy said about murder, "There is no knowing where you will stop." And after New Jersey had set the example—or rather followed ours, should we be able to have that law—why wouldn't Jersey City protect itself against Hoboken, and both against Weehawken, and all individually against the Hackensack melon growers?

Seriously; the proposed law is an exceedingly bad one, urged only for selfish purposes, inimical to the interests of all the community except a small class who deserve no such favor, would be unconstitutional if enacted, and it is to be hoped will be overwhelmingly defeated by every State Legislature before whom its audacious inventors have the impudence to bring it.

If we make any change upon the system that exists now, let it be by the institution of governmental inspection. It is not probable that inspectors appointed by the general government would do the work any more thoroughly than it is now done under the compulsion of commercial interests, but their creation would meet all possibly honest requirements for official inspection of the dressed beef for home consumption in all the States, and would no doubt have a beneficial influence abroad as offering an assurance there that would be of value in lands where everything "official" commands peculiar respect. The employment of national inspectors would not interfere with established business interests or weaken the now healthful activity of competition which is, after all, the best safeguard of the consumer. By all means let us then have national inspectors, but, be bothered no more by these mendacious and fraudulent advocates of so unwise and injurious a scheme as that now thrust upon the consideration of our State Legislators.

ORANGE CULTURE.

HOW THE CROP IS RAISED AND DISPOSED OF IN FLORIDA.

Marion County, in the centre of Florida, is celebrated for producing one-fourth of the orange crop of that State. It has large groves of natural growth situated in the midst of rich hummocks, those adjacent to Citra, its principal shipping point, covering over 2,500 acres, and containing 75,000 full bearing trees. J. A. Harris, a resident of this district, and known throughout the State as the "orange king of Florida," has been visiting New York, and furnishes some interesting data to the *Tribune* concerning the cultivation of this and other fruit. He said: "Marion County will furnish over half a million boxes of oranges this year, or more than any other three counties put together. The crop of the State averages from two and one-half to three million boxes. The majority of the groves are of spontaneous growth, and stand just where nature planted them; hence the fruit, being of wild origin, is sour and bitter. This stock is the best to graft upon, and when budded to the best sweet varieties the new wood is all sweet above the graft and produces the most luscious fruit, a tree taking three to four years to bear. I was born and brought up at Lake Harris, and when at the age of twenty-two I moved to Citra and bought a grove, the country was a wood, boasting one pine cabin and four inhabitants. All of the oranges were of wild growth and consequently sour, so I grafted them and made them sweet, studied the nature of the fruit, kept the ground clean and well-fertilized, and for eighteen years have diligently pursued the business, and as a result my grove of 200 acres this year yields 50,000 boxes of oranges, which is greater than the yield of any other grove in the State. Bishop, Hoyt & Co., my neighbors, have a grove of 175 acres and are the second largest, and the Lindsay or Crescent Orange Company, also in this district, are the third largest growers. At Citra we confine our labor to men as far as picking, packing and shipping are concerned, but boys do the wrapping, and at some groves girls also assist at wrapping. The wages of the men average from \$1 to \$3 a day, yet as they do the bulk of the heavy or outdoor work they, as a rule, command the latter figure, the boys earning all the way from 50 cents to \$1.25 a day. The busy season begins in November and lasts until April. The force is about equally divided between the colored and white people, the former doing the picking and the latter the packing and shipping. What do they do during the remainder of the year? Why, new groves have to be laid out, land cultivated, weeded and kept clear to prevent the trees from becoming diseased, and this takes all summer. This, of course, does not require as many men as during harvest season, still there is always plenty of work between opening up the new and keeping the old groves in proper condition. Some of the hands hire out on farms, orchards, cotton, tobacco or sugar plantations. You ask if many bananas or pineapples are grown in this district. Only a few, for table use. At Indian River, further south, bananas, pineapples and cocoanuts, which are largely tropical or open-air plants, are grown extensively. Oranges are more profitable to us, and next to them limes, lemons, citron and grape fruit. By the way, tobacco growing is attracting great attention and becoming a considerable industry, especially the finer grades, which flourish on hummock land, and in quality are equal to any brought from Cuba. Speaking of the fruit culture in Marion County, it has only one drawback, namely, lack of water. April and May being the dry season, the young fruit drops off; hence, there is some waste, and an improved system of irrigation is needed. Wells have been sunk successfully along the Atlantic coast and St. John River, but in the interior, although borings have been made to a depth of 1,000 feet, the flow of water is insufficient for practical purposes. The only disease prevalent is that of scale insects of many kinds, which sap the life out of

the fruit, but by keeping the trees well trimmed, and the land clear and well fertilized, the business cannot fail to be successful. Of one thing I am strenuously in favor, and that is confining our shipments to one or two Eastern markets, where all consignments would be sold at an exchange. This would guard against an overstocked market and the loss incidental to perishable goods, and the advantage gained would be this, at least, that goods would sell on their merits, and prices could be regulated. Citra has now 500 inhabitants and ships 250,000 boxes of oranges annually, and in other portions of the county there are numberless groves that ship from 100 to 10,000 boxes of the fruit with the return of every season."

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

March.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, veal.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish, trout.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress.

FRUIT.—Apples, bananas, oranges.

PRACTICAL RECIPES.

BLACK BEAN SOUP.—Soak one pint of black beans over night, then put them with beef bones or a small piece of lean salt pork into three quarts of water. When they have boiled three or four hours strain, and season with salt, pepper, cloves and lemon juice. Add, when ready to serve, some thin slices of lemon and hard-boiled eggs. Serve with dice of toasted bread.

OYSTERS ON TOAST.—Two dozen oysters, two tomatoes, one small onion, one-half lemon, two or three ounces of butter, parsley, cayenne, salt. Chop the onion and fry it in butter, add the pulp of the tomatoes with the seasonings; cook briskly for ten minutes; add the oysters and thicken slightly with half a teaspoonful of flour, simmer for ten minutes, add the juice of the lemon and the butter and pour over well browned toast. Serve at once.

DOUGHNUTS.—One egg, one cupful of milk, three pints of flour, one cupful of sugar, three teaspoonfuls of Horsford's baking powder. Mix; roll out, cut and fry in boiling lard.

APPLE TAPIoca PUDDING.—Soak one cupful of tapioca in three pints of cold water over night; put it on to boil twenty or thirty minutes, or until it looks clear; then add a quart and a half of pared and quartered apples, one cupful of sugar, one teaspoonful of salt, and essence of lemon. Now put it into a buttered dish, and bake an hour and a quarter. Serve, when cool, with sugar and cream.

POTATOES FOR BREAKFAST.—Peel the potatoes and slice them thin; cover with a little water, so little that it will evaporate while cooking. Add salt and pepper to taste, and cream, or a little milk and a lump of butter.

LEMON TARTS.—Two lemons, two ounces of ground almonds, two ounces of grated bread crumbs, two ounces of suet, six eggs, four ounces of sifted sugar. Squeeze the lemons and grate the rinds, strain the juice and add the almonds, bread crumbs, suet and eggs,

yolks and whites beaten separately to a snow, with sugar. Make a light puff paste around the dish, and bake in a quick oven.

PEPPERMINTS.—Two cupfuls of sugar, one-half cupful of water; boil five minutes. Flavor to taste with peppermint; stir until thick, and drop on white paper, well buttered.

THE STATE INSPECTION LAWS DEFEATED.

TRUTH, COMMON SENSE AND JUSTICE PREVAIL.

One of the unfailing signs of defeat is always what the boys in play call a squeal. The boy playing marbles, when he loses, is sure to accuse his playmate of cheating, and to the casual observer of their play this plainly tells who is getting worsted. Just so it is with the few Eastern meat dressers, live stock men and professional agitators, who have been assiduously trying to convince the legislators of the various States that the only way to prevent their constituents from being poisoned by diseased meat is to pass State inspection laws which would rule out all beef killed and dressed in other States. The arguments used were many, and apparently unanswerable. The retail butcher was the first and most important consideration. He was told that he must not sell any Chicago beef, because he would only become a meat cutter for the big four, besides that he was injuring his home interests; but the fact that the retail butchers under such State inspection laws could not sell any beef outside of their own State was carefully concealed. Next the poor workingman had his attention called to the fact that if he bought Chicago meat he would take the bread out of the mouth of his local fellow workman, whose work at butchering would not be wanted if Chicago labor was supported; and in this case again studious care was taken not to tell him that if it were not for Chicago beef meat would quickly become an unknown luxury in his household. Then the general consumer was appealed to with the old and much worm-eaten chestnut that all Chicago beef was unhealthy, and that the only safeguard for the health of wife and children was an inspection of the live animal. Here again no mention was made of the greater difficulty of discovering diseased meat in the live animal than in the dressed meat. The picture of the average political heeler appointed as meat inspector, auscultating and percussing a cow to see if she has tuberculosis, is too funny in imagination even. The next subject for persuasion was the farmer, or, as these political tricksters always call them, the producers and wealth-getters of this great agricultural country. He was told that if the Chicago monopolists could only be stopped there would be a fortune in cattle raising. There would be no more hard ploughing, sowing, cultivating and reaping. All a farmer would have to do is to raise a calf, then a cow, and in a few years he would be the happy owner of herds upon a thousand hills, all of which the local butchers would be compelled to come to him, almost upon their knees, to buy at his price. The fact that cattle can be raised on the Western plains and shipped East at much less cost was entirely hidden from view. Last of all, the legislator was told in a sort of threatening advise that, aside from all the economic views of the question, which needed no argument, the votes of all these combined interests would heavily outweigh the few votes controlled by the big four. All these nicely-conceived schemes, based on one-sided and fallacious logic, might have worked very well if there had been no one to throw a little bright light on the "ways that are dark and tricks that are vain" of these conspirators. Very naturally the Chicago beef dressers, seeing these selfish men try to injure their business, started out in the only manly, open and above-board business like way open to them. They stated the case frankly and truthfully, and submitted it to the people of the United States through the best channel, the public press. Everybody read the facts *pro* and *con*, made up

their minds, and the universal verdict was in favor of right and justice. The legislators saw this as well as others, and it resulted in an overwhelming defeat for the conspirators. These State inspection laws were squelched. At first the two or three sheets who claimed to be the mouthpieces of the conspirators howled themselves hoarse over the assured defeat of the Chicago monopolists. Then they gradually lowered their tone until now they have come down to a puny whine, and ascribe their defeat to the improper use of money, bribery of their several legislatures, and, in fact, to any cause but the right one, namely, that they had not justice nor common sense on their side. The man in Albany who tried to engineer this bill through is named Slaughter. His name fits his fate to a nicety. He and his bill were slaughtered. The leading movement, in this interest, is yet to be heard from. It is the meeting of the Governors in Topeka on March 12th. If it amounts to anything more than that of the three tailors of Tooley Street, it will only result in the same old and well-known harmless saying of the Governor of the North State to the Governor of South Carolina, and probably that is what the meeting is really called for.

AERONAUTIC MOTORS.—M. Trouve has constructed several small and extremely light motors of the Gramme and Siemens type, in order to carry out some aeronautic experiments. One of these motors, while only weighing about three ounces, is capable of developing .026 brake horse-power. All the parts of the machine are of aluminum with the exception of the magnets. This motor, which could be contained in a box 1.2 inches each way, is able to lift itself twenty-five yards a second by means of a wire and a fixed support. A one-horse power constructed on the same lines would weigh barely eight pounds. When furnished with a light screw, and attached to the arm of a balance, the motor is able to lift its whole weight, when connected with a source of electric energy equal to forty watts. In order to facilitate his experiments, M. Trouve places his motor at one end of a long lever capable of a vertical and horizontal movement about its centre, the electrical connections being made with the motor through the lever and its supports.

PUBLIC MEDICAL LIBRARIES.—In the proceedings at the reception given to Dr. Oliver Wendell Holmes on the occasion of his presenting his library to the Boston Medical Library Association, Dr. R. M. Hodges, president of the association, gave some facts regarding the public medical libraries of this country. "First," he said, "in point of time, is the library of the Pennsylvania Hospital, founded in 1760; second, that of the College of Physicians in Philadelphia, founded in 1788; third, the New York Hospital Library, in 1796, etc. Of course, the library of the surgeon-general's office has surpassed in size all these, having a large annual appropriation and a magnificent librarian. Next in rank comes the library of the College of Physicians; next, that of the Academy of Physicians; and our library comes fourth in rank. After that come the Medical Department of the Public Library of Boston, and the New York Hospital Library. In other words, although the youngest of the seven libraries, ours has already passed three of them. We have nearly twenty thousand volumes."

DANGER IN THE POSTAGE STAMP.—The *Sanitary News* calls attention to the fact that a postage stamp may in various ways convey contagion. One of the simplest and most plausible is that in which a postage stamp, partially attached to a letter to pay return postage, is sent by a person infected with some disease to another person. The disease is transferred, in the first place, to the adhesive stamp through the saliva, and in being attached to the letter by the receiver the poison may be transmitted to him in turn through the saliva. Another cause may be the infection of the stamp with disease germs. The stamp, having been exposed in a room where a diseased person lies, may become slightly moistened, and thus retain the germ. That this is true can be proved very simply by a microscopical examination. We often see a person holding change for a moment in the mouth, probably not knowing that investigation has shown that disease germs can be carried by money. If one could see through what hands the money has passed, he would hesitate before using such a third hand. Silver money is as bad as paper money; but, while many would hesitate to hold a dirty bank-note in their mouth, they think that a silver piece, because bright, is apparently clean.

DOCTORS ADVERTISING.—The Board of Health of Illinois a few months ago revoked the license of H. G. Wildman, a physician, the chief charge being that he had overstepped the ethics of the profession by advertising his success and skill in newspapers. Dr. Wildman then appealed the case to Gov. Oglesby, and he rendered his opinion a few days since, reversing the decision of the Board of Health, and claiming that a physician should not be debarred from practice because he advertises what he can do and has done. Dr. Wildman expends over forty thousand dollars yearly in advertising in papers all over the Union, and several of the Illinois papers went on his bond in the action.

SCARLET FEVER POISON.—The *Medical Era* relates the case of a girl aged about eight, living at Fortress Monroe, Va., who was some months ago attacked by scarlet fever, the disease running a typical course. For a long time no possible source of contagion could be discovered. The child had not been absent from home, had been with no one lately exposed, and no other case was known to exist anywhere in the vicinity. Subsequently Dr. Brooke learned that one of the house servants had nursed a case of scarlet fever in a distant city just about a year before. After the case terminated, she packed some of her things, including some clothing then worn, in a trunk and left the place. A year later she had the trunk sent to her, opened it and took out the contents, the little girl being present and handling the things. Very soon after, the latter was attacked, as stated.

RUSSIAN PETROLEUM.—M. De Tchihatchef, a Russian writer, asserts that the average flow of petroleum in the Baku region is 88,000 barrels per day, as against 25,300 barrels in the United States. The chief drawbacks encountered by those who have worked the Baku oil fields have been lack of transportation and want of cheap package. A railway to Batoum, on the Black Sea, opened two maritime routes to Europe, and met the first difficulty. Cars and vessels constructed to carry crude oil met the last, and enabled refineries to be built in the interior of the empire wherever fuel might be cheapest. It is confidently predicted, since the completion of the Batoum Railway, that Russian oil will displace American in European markets, and that it will even be possible for the Russian product to compete for the markets of the United States. M. De Tchihatchef points out a probable demand in the near future for petroleum to serve as fuel on the great lines of railway completed and still building in Asia.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the 'Handy Binder' for binding the *ANALYST*, because of the following advantages: It is elegant in appearance, strong, durable and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

BUSINESS NOTES.

HORSFORD'S ACID PHOSPHATE, FOR WOMEN.

Dr. Wm. E. Jewett, Adrian, Mich., says: "I have found it particularly useful in the nervous disorders of women."

BUFFALO LITHIA SPRINGS.

The therapeutic value of lithia and salts containing that remarkable alkali becomes better known and appreciated every day. Its singular potency in many of the more serious diseases of the kidney and bladder has given it a high position in the *materia medica*. Further than that, recent researches tend to show that in the numerous complaints which have been charged to rheumatism, gout, old age and the like, but which are really caused by the presence of chemical compounds in the blood and tissues that have not been removed by the kidneys, lithia gives to the physician a new method

of attacking an old evil, and to the patient a new avenue of escape from suffering and possible death. When lithia was found to possess remarkable curative powers, it was at first feared that the supply was too small to meet the demand from the faculty the world over. With the growth in popularity, there came a corresponding development in its supply and sources. Thus, in the United States, there are no less than thirty lithia springs of more or less value and excellence. Of these, notable instances are the famous Buffalo Lithia Springs. Their medicinal virtues were known even before the fact of their containing lithia had been discovered, and enjoyed a wide local popularity and repute. Chemical analysis showed the popularity to be founded on a substantial basis. It went further, and demonstrated these waters to be one of the most efficient and beneficent natural medicines in the world. From that time on the history of the spring has been a long and ever-increasing series of cures. Its water is as rich, powerful and sparkling as when it first attracted public attention. Its analysis to-day varies scarcely a ten-thousandth from that of six years ago. This is in marked contrast with those springs which, with increased demand upon their output, change in character and gradually lose the elements by which they were originally distinguished. The Buffalo Lithia Springs, so far as can be foreseen, will be just as potent for good to sick and suffering humanity a hundred years hence as it is at the present time. With these many and great advantages, it is no wonder that the celebrated springs have gained a cosmopolitan reputation.

REMOVAL.

Mr. W. P. Fessenden, the successful New England representative of Messrs. C. P. Moorman & Co., of Louisville, Ky., the owners of the celebrated brand of J. H. Cutter whiskies, has removed his office to No. 17 Central Wharf, Boston. With such a good article to represent, it is sometimes hard to tell whether the success is due to the excellent quality of the goods sold, the fine reputation of the home house, or the skill and perseverance of the salesman. Perhaps a mixture of all three is what does it.

THE SCIENTIFIC ASSOCIATION.—The American Association for the Advancement of Science will meet at Toronto, August 27 to September 3; the first general session to be held on August 28; the council meeting on the 27th.

LOOK OUT for Imitations and Substitutes OF *Horsford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

WE ALWAYS STOP THERE.

A very pleasant, convenient and popular hotel is the Sturtevant House, New York, Matthews & Pierson, Proprietors.—*Express*.

CALIFORNIA

Fine Table
Wines

From our Celebrated
Orleans
Vineyard.

Grand Harvesting & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD. New York, } Agents.
C. JEVNE & CO., - - - Chicago, }

FACIAL BLEMISHES.

The Largest Establishment in the World
for their Treatment. Facial Develop-
ment, Hair and Scalp, Superfluous
Hair, Birth Marks, Moles, Warts,
Moth, Freckles, Wrinkles, Red Nose,
Acne, Pimples, Black Heads, Scars,
Pitting, etc., and their treatment.
Send 10 cts. for book of 128 pages,
treating on 25 skin imperfections,
6th edition revised and illustrated.

Dr. JOHN H. WOODBURY,

210 West 42d St., New York City, N. Y.

Inventor of Facial Appliances, Springs, etc.
Six Parlors; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.

HORTON, CATO & CO.'S



"ROYAL" SALAD DRESSING.

The best prepared Dressing, always fresh, does not turn oily, rancid or decompose as other dressings of a similar nature.

"ROYAL" WORCESTERSHIRE SAUCE,
The Peer of American Product.

HORTON, CATO & CO.,
SOLE PROPRIETORS AND MANUFACTURERS,
DETROIT, MICH.

LEA & PERRINS' SAUCE.

Lea & Perrins', the original and genuine Worcester-
shire Sauce, has been before the public over a half a
century. Like all popular favorites it has long been the
standard of comparison and the pattern for counterfeit-
ers who not being able to imitate its excellence offer to
the public imitations in bottling, labels and style of
putting up. They dare not counterfeit the signature of
Lea & Perrins which is on the red label of every genu-
ine bottle, and of which this is a facsimile.

Lea & Perrins

To be sure of obtaining the genuine article, see that
the above signature is on the label.

ROBINSON'S
Sura Cura SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure
state of the blood. An antidote for **MALARIA**.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

ALTHENE SKIN SOAP

An absolutely pure and perfect soap for all
purposes of the toilet, nursery, bath or sick-room.
Has the approval of leading chemists and physi-
cians, and is recommended by all who have used
it. Price 25 cts. a cake, or 65 cts. for a box of
three. Can be obtained of the retail druggists
or from

J. W. CAMPION & CO., 916 Filbert Street,
PHILADELPHIA.



BLAIR'S PILLS

Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.

SCOTT'S EMULSION

OF PURE COD LIVER OIL WITH

HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects.
Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs
as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and re-
ceives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination
with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING
DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—un-
equalled by any single or combined remedy in existence. The rapidity with which delicate children
fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.
By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,
By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.
Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

Robert Gordon's

TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,
Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,
In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

ESTABLISHED 1857.

J. H. CUTTER,

—OLD—

BOURBON AND RYE WHISKIES.

We are the Sole Owners and Proprietors of this
Celebrated Brand of Whiskey.

C. R. MOORMAN & CO.

LOUISVILLE, KY.

We Guarantee the Superior Quality and Absolute Purity of every
Barrel of Whiskey sold by us under this Brand.

STEWART CERAMIC CO.,

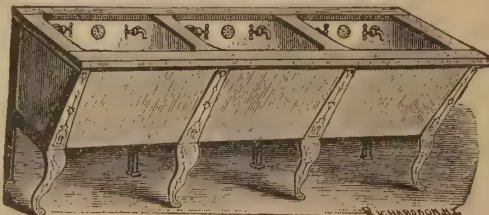
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Wash tub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

THE TORSION**Braided Wire Mattress.**

At all times a thoroughly ventilated and perfectly clean mattress, it cannot absorb odors, or retain exhalations or disease germs.

D. HAYES AGNEW, M. D., Prof. of Surgery, University of Pennsylvania, says:

"The Torsion Braided Wire Pillow and Mattress I regard as superior to anything of the kind now in use; well suited for either private or hospital use."

Prof. WM. H. PANCOAST, late Professor of Anatomy, etc., in Jefferson Medical College, now Professor of Anatomy and Clinical Surgery in the Medico-Chirurgical College of Philadelphia Hospital Surgeons, says:

"I have used in my surgical practice your Braided Wire, in the form of mattresses, pillows for the head and body, and short pillows for the arm and leg when injured. I find them most admirable, cool and light, yet affording perfect and elastic support."

I have saved a patient from bed sores by the use of the Braided Wire mattress."

WM. H. FORD, President Board of Health, Philadelphia, says:

"I have used the Torsion Braided Wire Mattress with great satisfaction, it is light and therefore easily handled; it is elastic and very comfortable. The case can be easily removed to afford a complete airing, a feature of great importance from a health point of view. It is an invention of great usefulness."

For descriptive circular and price list, send to

The Torsion Braided Wire Upholstering Company,

1017 CHESTNUT ST., PHILA.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT
A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use night or day, when traveling or at home.

MALTED MILK does away with the danger of using sour or impure milk.

MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.

Ask your physician his opinion of **MALTED MILK**, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and

family use, ... \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

Subscriptions \$1 per year Now is the time to subscribe.

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, JR.

ESTABLISHED 1798.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York.

Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

GOOD ADVERTISING AGENT WANTED,

Address, ANALYST PUBLISHING CO., 19 Park Place, N. Y.

ESTERBROOK'S STEEL PENS

Leading Numbers 14,048,128
130, 135,
333, 161.

—For sale by all stationers.—

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.

WORK · CAMDEN, N. J. ·

LADIES HOME COMPANION

Now in its 16th year, well established, tried and true, as attested by a constituency of over Three Hundred Thousand Readers. The publishers, desirous of extending its influence into half a million homes, offer

3 Months Trialfor **Only 10 Cents** (Silver or Stamps.)

10 cents will secure 6 NUMBERS of this charming periodical (all different), each copy equal in size, quality, amount of reading matter, etc., to other illustrated papers that cost 10 cents a copy or \$4.00 a year.

The LADIES HOME COMPANION stands without a peer in literary excellence, typographical beauty, suggestive illustrations and helpful advice for every department of home life. It is beautifully illustrated, and printed on fine, cream-tinted paper, and has a more brilliant array of contributors than ever before, consisting of

8 Regular Editors and Scores of Eminent Writers,

Whose facile pens will furnish **Short and Continued Stories** of absorbing interest, while all branches of household economy that can possibly come within the good housewife's province will be ably treated.

PRACTICAL HOUSEKEEPING. This department is a well-spring of valuable suggestions for every branch of housekeeping, including a large variety of tested recipes, and how to prepare them at the least expense, in dainty and appetizing forms; also, hints for table decorations, methods of work, etc., and much practical information, covering the entire range of household work, treated in such manner as to interest every housekeeper.

FANCY WORK. In these departments elegant illustrations and plain directions are given, showing how to make all kinds of fancy work, embroideries, needlework, crocheting and knitting; also suggestions for ornamenting Parlors, Bedrooms, Dining-rooms; arranging and Decorating Furniture, Curtains, etc., so that homes may be adorned with taste, and made attractive with little or no outlay. Instructions will also be given that will enable any one to make many useful and ornamental articles, such as Wall-pockets, Brackets, Fancy Leather-work, Work-boxes and baskets, Fancy Work with Leaves, Flowers, Grasses, etc.

FASHIONS, OR, WHAT TO WEAR AND HOW TO MAKE IT. Artistic illustrations are always found in this department, with descriptions of the newest and latest Styles and Novelties in Ladies' and Children's Dresses, Hats, Bonnets and other garments, with directions that enable one to dress well and economically. The very finest illustrations are used to make everything plain, so that ladies can make their own dresses, trim their own Hats and Bonnets, and dress themselves and their children with neatness and taste, in the prevailing styles. Each copy of the Ladies Home Companion is worth more than a year's subscription to every young lady and married woman, for this department alone.

MOTHERS find the portion devoted to them invaluable, and filled with a wide range of helpful suggestions obtained from practical experience relating to a mother's duties to her children, how they should be reared and cared for in sickness and in health; also suggestions and illustrations for all kinds of children's garments and many other necessary things.

FLOWERS. The Floral Department is a treasure to the amateur florist and all who love flowers, containing much of interest to those who raise flowers, whether for pleasure or profit.

OCCUPATIONS FOR WOMEN.

Women can make money in many ways, and the opportunities for women to become self-supporting are constantly increasing. The Ladies Home Companion aims to keep women informed in reference to those things that wives, mothers and single women are doing to earn money, while in all its departments it is the most complete, most readable and

MOST FASCINATING LADIES' PAPER PUBLISHED.

So popular have our publications become that more than a million people read them regularly.

Mention this paper and address **LADIES HOME COMPANION, Philadelphia, Pa.**

A Practical
Household
Journal.



TOILET.—Recipes and hints for care of hands, face, teeth, eyes, hair, etc., color and harmony in dress, etc.

ETIQUETTE at home and abroad, at the table and on the street, at public gatherings, etc.

CHILDREN'S CORNER sparkles with interesting sketches and splendid stories for wide-awake boys and girls, while an opportunity is given to develop their mental powers by solving puzzles, charades, enigmas, etc., for which prizes are offered.

DEPARTMENT.—Rules, usages and ceremonies of good society, letter writing, good manners, the art of conversing well, accomplishments, home training.

SEASONABLE BILLS OF FARE are given, with plain directions for the economical preparation of healthful, nourishing and palatable dishes, with hints for serving, arrangement of table, reception of guests, etc., etc. Also menu for parties, teas, receptions, Thanksgiving and Christmas dinners.

PEACOCK'S BROMIDES

(SYR: BROM: COMP: PEACOCK)

NERVE SEDATIVE.

Each fluid drachm represents 15 grains of the Combined C. P. Bromides of Potassium, Sodium, Calcium, Ammonium and Lithium.

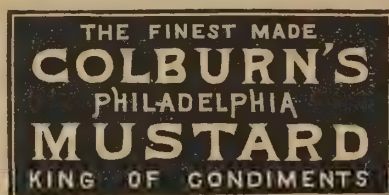
USES:—EPILEPSY, and all CONGESTIVE, CONVULSIVE, and REFLEX NEUROSES.

This preparation has stood the test of time and experience, and can be relied upon to produce results, which can not be obtained from the use of commercial bromide substitutes.

DOSE:—One to two FLUID drachms, in WATER, three or more times a day.

PEACOCK CHEMICAL CO., St. Louis.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST.** Apply 19 Park Place, N. Y.



THE VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

OPIUM AND LIQUOR HABIT CURED.

WE solicit an investigation of our system and methods, and will gladly send to any one very interesting matter on the **OPIUM HABIT DRUNKENNESS** and their effects and cure. Physicians specially invited to examine, and if desirous of trying our remedies, liberal arrangements will be made with them.

THE LESLIE E. KEELEY CO., Dwight, Illinois.



is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 36c, up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your **LIQUID PEPTONOIDS** as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the **LIQUID PEPTONOIDS** full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try **LIQUID PEPTONOIDS** in two very desperate cases of **DIPHTHERIA**. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your **LIQUID PEPTONOIDS**."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In *dyspepsia* and *loss of appetite* its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis* and other wasting diseases, *Nervous Prostration*, *Constipation*, *Inanition*, *Malnutrition*, *Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with **LIQUID PANCROBILIN**, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. **PILL PANCROBILIN** is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.
Acidi Phosphorici aa, grains, ss.
Antipyrin.
Ext. Apii. Grav. dulc. (Celery), aa grains, j.
Sodium Bromide, grains, v.

The satisfactory results produced by **PHOSPHO-CAFFEIN COMP.** in *Headaches*, *Neuralgia*, *Insomnia*, *Neurasthenia* and *general Nervous Irritability*, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

(ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.
MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

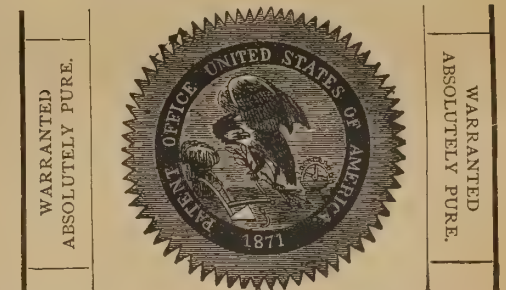
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

ARMOUR & CO.

CHICAGO, ILLS.

PACKERS OF

Pork and Beef Products

CANNED MEATS,

ETC.,

FOR HOME CONSUMPTION AND EXPORT

TO ALL PARTS OF THE WORLD.

Also,

SHIPPERS OF

Choice Pressed Beef,

MUTTON AND HOGS,

In Refrigerator Cars,

To BOSTON,

NEW YORK,

PHILADELPHIA,

BALTIMORE,

And other cities throughout the country.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans. PRICE BAKING POWDER CO. NEW YORK. CHICAGO. ST. LOUIS.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians. Essentially Different from all other Beef Tonics. Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D. F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

Subscriptions \$1 per year. Now is the time to subscribe.

STERLING BAKING POWDER



MADE FROM 99.50 PURE CREAM TARTAR.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.

STERLING MAN'FG CO., 12 & 14 Spruce St., New York.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

A. B. C. Steam Cooked White Oats.

HULLED AND CRUSHED.

A. B. C. WHEAT, BARLEY, AND MAIZE.

A. B. C. Trade Mark

American
Breakfast
Cereals.

THE CEREALS M'FG CO.,

SOLE PATENTEES FOR STEAM COOKED CEREALS.

BE SURE AND GET THE A. B. C. BRAND.

SOLD BY ALL GROCERS.

Muscle, Nerve and Brain Food.

Easily Digested, Healthiest Best.

"GOOD MORNING" COFFEE PERCOLATOR.

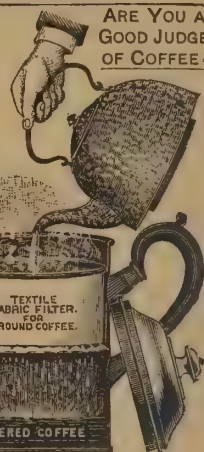
RICHEST, PUREST, BEST CUP OF COFFEE EVER MADE.

SIMPLEST AND QUICKEST PROCESS.

RETAINS THE FULL STRENGTH AND AROMA, BUT HAS NO BITTER TASTE.

ONE POUND OF COFFEE WILL GO TWICE AS FAR AS BY ANY ORDINARY METHOD.

FOR SALE BY THE TRADE.



ARE YOU A GOOD JUDGE OF COFFEE?

IF YOU CANNOT PROCURE IT IN YOUR TOWN, WRITE TO

MANNING, BOWMAN & CO.

57 Beekman St., New York. Circulars and Price List sent Free on Application.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

Have You a Baby?

If so, proper nourishment is the first consideration. If nature's supply is not adequate, feed it on

RIDGE'S FOOD

None genuine without WOOLBICH & Co. on label.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

UNIVERSITY OF ILLINOIS.
[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 11.

NEW YORK, THURSDAY, MARCH 14, 1889.

WHOLE No. 107.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

A Linguistic Complication	125
Charity and Red Tape	124
Domestic Dietetics	127
Editorials	121
Philadelphia and Pure Food; Beef for Hotels and Restaurants; The Telautograph; The Antipyrine Habit; Egg Albumen; Consumption Contagious.	
Fashion's Foibles	125
Fish Fancies	124
Food Adulterations	123
Hypnotic Treatment	123
Immaterial Forces	122
Kansas Beef	123
Minuet, The	126
Sanitary Science	126
Seaside Swindles	124
Seven	126
Turkish Style	126

PHILADELPHIA AND PURE FOOD.

Philadelphia has been rejoicing during the past week in a mild excitement in the shape of a Pure Food Exposition. Taken in connection with the selection during the same interval of one of her merchants as a member of President Harrison's cabinet, the City of Brotherly Love may be regarded as having experienced a combination of commotions to which its sober-minded population is not accustomed. The exposition referred to was held under the auspices of an organization of retail grocers and manufacturers. The famous "Society," who has plumed himself as being the special Philadelphia representative of pure food, was not invited to take a hand in the demonstration, owing presumably to the slur he cast a couple of years ago upon the manufacturing interests of that city in a pretended interview he published in one of the local papers. The result was that the exposition was a notable success, filling the loyal hearts of the retail grocers and manufacturers with justifiable pride, and attracting attention, according to

the daily papers, from points as remote from the scene of its brilliant operations as Pottsville and Frankford and the Falls of Schuylkill. It is gratifying to record the happy outcome of the enterprise, inasmuch as exhibitions of that kind are the most potent instruments for promoting the success of the genuine pure food movement, the practical results they induce being both effective and far-reaching. Noisy demagogues and vain-glorious "crusaders" may declaim as vigorously as they please about the prevalence of adulteration and the constant risks to which the dear, suffering public would be exposed but for their philanthropic efforts. But their vaporings are idle and go for what they are worth. The public is too shrewd not to detect the emptiness of these self-laudations, preluding, as they so notably have done, the passing around of the hat to gather in cash contributions for alleged membership in supposititious "societies." The proper method for effecting the reform aimed at is by practical illustration that appeals to the intelligence, rather than by denunciations that only create alarm and uncertainty. Let the public be educated and not merely scared. That is the sensible course which the Philadelphia merchants and manufacturers have adopted. They have tired of the effort to accomplish their end through the weak instrumentality of trade journalism, which never reaches the consumer, and which would often repel him if it did reach him. They have recognized the inefficiency of the pretended local organization, which denounces but does not reform. And they have taken the matter intelligently and vigorously in hand, with the desire to train the public mind to examine and estimate for itself the qualities of the various commodities which they offer for the delectation of the public palate. Their exposition was of the nature of an object lesson, through which we get a glimpse of the dietetic millennium, still far distant, it is true, but to which we are steadily and surely advancing.

BEEF FOR HOTELS AND RESTAURANTS.

The largest consumers of meat are the hotels and restaurants. These must use the best obtainable, and at the same time have an eye to low prices. With large experience in purchasing meat and constant care to get that quality only which will help to retain old patrons and secure new custom, the opinions of restaurant keepers on the relative quality of Western dressed meats as compared with that dressed by local butchers are valuable. We have, therefore, sought information from these men, and find that they unanimously prefer Western dressed beef, because it is the best and most tender. Without one dissenting voice, they express the opinion that it was a blessed day for them when Western dressed beef was introduced. It assured them a constant and even supply at all seasons, in any quantity to suit, without necessitating any binding agreement to take any given quantity, the material being furthermore cut to suit their varied demands. The price has also been influenced, and there is no danger of any sudden scarcity unduly inflating prices.

The quality is also much better than it was under the old system, the beef being more tender and juicy, and such a thing as tainted meat being now unknown. A few of these men who have summer establishments in localities which refrigerator cars cannot reach were particularly outspoken in favor of the Western meat, having learned by bitter experience its great advantages over the dry, tough and unpalatable stuffs supplied by local butchers. Not one could be found who would favor the enactment of any foolish law that would stop the sale of Western beef. This only confirms what we have all along said on the subject.

THE TELAUTOGRAPH.

One of the astonishing achievements of electrical science, the practical value of which cannot be definitely set forth, as it certainly cannot be over-estimated, is the invention of an instrument by means of which writing and drawing can be transmitted by telegraph. This wonderful instrument, known as the telautograph, or writing telegraph, is now receiving its finishing touches from its inventor, Professor Elisha Gray. The device consists of two current interrupters at the sending end, and a pair of electromotors at the receiving end. The sender uses either pen or pencil, near the point of which are attached two threads running at right angles to each other. These threads are kept at an even tension automatically, and each one passes to a current interrupter set into the telegraphic circuit. When the pen moves to the right, the current is broken a great number of times for a small movement. When it moves to the left, the current is reversed, and is similarly interrupted. The same arrangement prevails on the movement of the pen up and down. The writer can write or sketch as rapidly and as freely as if he had no telegraphic attachment. At the receiving end there are two electro-magnets, fitted with rods set at right angles to each other, so pivoted as to give any motion desired to the pen which they carry at their intersection. When a series of breaks in the current is caused by a motion of the sending pen to the right, the magnet draws the lateral rod also to the right. Similarly, upward motion is given by the vertical rod. Left-handed or downward strokes of the sending pen are reproduced by the receiving pen in the same manner. Consequently every motion made on the paper at one end of the wire is copied at the other end. When the pen is taken off, or a new line is begun, an automatic device operates with the same result on the receiving pen.

THE ANTIPYRIN HABIT.

The new coal tar product, antipyrin, has already started a vice of its own. This singular compound was discovered by a German chemist, and on account of its remarkable qualities is now used the world over. It has the power of reducing the temperature of the body by several degrees, and so is of vast utility in treating fevers and feverish stages of many diseases. It does

its work by depressing the action of the heart, and generally, when employed by physicians, it is accompanied with digitalis to neutralize its influence in the latter regard. Women use it partly because it is a sedative and partly because it makes the complexion beautifully clear and pale by keeping the blood away from the surface of the body. The habit, like all others, grows upon the person who practices it. It does harm, however, from the first. With women who are weak it increases their weakness; with those having a predisposition towards heart disease of any sort, it increases the tendency to a terrible extent. Besides these results, antipyrin exerts a peculiar influence upon the blood, which is not yet thoroughly understood by the faculty. It seems to undergo some decomposition or breaking down when absorbed by the system, developing unknown compounds, which either attack the blood itself or else powerfully influence the nerves and ganglia which control the vital functions.

EGG ALBUMEN.

An unsavory squabble took place at Kearney, N. J., last week when a man named Adam Gilbert was arrested on a charge of highway robbery. Until recently Mr. Gilbert, who is a German, has enjoyed a monopoly of the bad egg industry for many years, and has waxed rich amid the odors of which his neighbors complain loudly. His large cluster of frame buildings on the edge of Hackensack meadows is one of the landmarks, and there he converts eggs which are no longer permitted to enter polite circles into egg albumen for tanners' uses. Recently one of his workmen, who learned the secret of manipulating the overripe hen fruit and turning it into money, started an opposition establishment, and induced a young man named Niss, whom Mr. Gilbert recently imported from Germany, to leave his employer and benefactor and go over to the opposition. Niss was driving along the highway in a wagon belonging to Antoine Theobald, his new employer, on Wednesday night, when Gilbert ran out of his yard and seized the horse. Niss fled, and Gilbert on examining the contents of the wagon, found a large number of bad eggs in tubs, barrels and boxes. The tubs, barrels and boxes belonged to him. He seized the whole outfit, and sent word to Theobald that he could come and get his horse and wagon and his eggs, but that the tubs, barrels and boxes had been confiscated. Theobald made the charge of highway robbery. After the hearing the Justice dismissed the case. The question occurs: How much of this egg albumen is used by bakers, confectioners and manufacturers of cheap pharmaceutical preparations to go into the human stomach?

CONSUMPTION CONTAGIOUS.

In a recent number, *Science* called attention to the danger to which travellers on ocean steamers are subjected when their stateroom companions happen to be consumptives. That this danger is not an imaginary one seems to be demonstrated by an incident which recently occurred in France. A French physician, Dr. Gautier by name, has been investigating the question whether tuberculosis may be communicated by means of its bacilli. That this is possible for lower animals has been thoroughly proved. Dr. Gautier has himself fallen a victim to the disease, having become infected from the pulverized tuberculous sputum with which he was experimenting, thus showing that the disease is equally communicable to man.

IMPORTANT DECISION.—In England the Court of Appeals has just handed down its decision reversing the finding of the lower court in the Edison incandescent lamp patent case. The case had been decided against Edison, principally on the ground of insufficient specification. This last decision upholds the Edison patents, and puts the Edison Company in England in the same position that it enjoys in Germany, where the patents have been uniformly upheld.

IMMATERIAL FORCES.

SOME OF THE MYSTERIOUS PROPERTIES OF MATTER.

The universe manifests itself to us in two ways, by matter, and by force or energy. Energy is a property of matter, but we can hardly conceive of it as existing by itself apart from matter. A stone falling through the air is the same stone as when at rest, but in one case it possesses certain powers or properties which are absent in the other, and reveals itself differently to our senses, but to give an absolute definition of energy would be as difficult as to define matter itself. The chemist concerns himself with matter alone. He classifies its different forms, separates it as far as possible into its different parts, and observes and records its different combinations and their mutual action upon each other. All this is of the greatest interest and importance, but there is something beyond, and the chemist finds himself confronted with certain phenomena which have a greater or less action upon matter, although in themselves they are without weight or bulk, and are, apparently, immaterial. In the centre of our astronomical system is placed the sun, which may be regarded as a vast reservoir of force or energy, which it radiates out in all directions, a certain proportion falling upon the earth. The most familiar manifestations to us of this radiant energy are light and heat, although actinic or chemical force is also found in the radiations, and, indirectly, at least, electricity and magnetism. For a long time light was considered a natural substance consisting of infinitesimally small particles or "corpuscles" thrown off from luminous bodies. Heat or "caloric" was likewise considered a material substance, and Professor Langley, in his address before the American Association last summer, gave a most eloquent and interesting history of the gradual development of our present theories of the nature of light and heat from those of former times. Without going into details, we may say briefly that the radiant energy which reaches us from the sun is supposed to be transmitted through an assumed material substance called the *ether*, a rather unfortunate term as it has no relation whatever to the chemical substance of the same name. The energy is transmitted through this ether by vibratory undulations or wave motion, and when it reaches our earth produces the phenomena of light, heat, chemical action, etc., just as the waves of a storm upon the ocean are transmitted through the water till they break upon some distant shore, and there develop the force stored up in them. In a similar way vibrations which are apparently too coarse to be transmitted by the ether, pass through the air and produce the phenomena of sound. It must be remembered that the existence of the ether is not actually proved, and we do not yet really know how the energy from the sun and stars reaches us. The experiments of Hertz, described in the January number of this paper, are claimed to demonstrate the actual existence of a medium corresponding in its properties to the hypothetical ether, but they do not appear to us as perfectly conclusive. But whatever may be the means, we know that energy is radiated from the sun, as well as from every luminous, heated, electrified, or magnetic body, to say nothing of the more universal and comprehensive force, the attraction of gravitation, and produces the phenomena which we call by the names of light, heat, electricity, magnetism, and chemical action. This conception of radiant energy is an impressive one, and in imagination we can project ourselves into space, and, standing out of the direct path, watch the mysterious undulations as they rush by us. All about us is dark, cold, and lifeless; there is neither light nor heat, but, starting from their solar source, a continual flow of vibrations pass along to the earth. There they separate themselves into their different kinds; some to give light, some warmth, while others by their chemical action cause the plants to grow and produce food for mankind. It is as if we stood by a line of wire through which a current of electricity is passing. We see nothing, and

to all our senses it is but a simple wire; yet through it a form of energy is passing, which at the end of the line produces light, heat, power, chemical action, magnetism, or electricity, at the will of the one who controls it. How this is done we cannot say, neither can we say what the sun sends to us across the vast regions of space, which renders it possible for life to exist on the earth, or how it reaches us with no wire or other apparent means of connection; but we know that the wonderful force or forces which we call radiant energy sent to us by the central body of our system, is the foundation of all life, and the source of all the power which is produced upon this planet. Trace back every form of power in use—the steam engine, the water wheel, the windmill, the electric motor, the strength of men and animals—and we find its origin in the wonderful radiant energy of the sun. Truly the ancient sun-worshippers had a more rational system of religion than those of the heathen people surrounding them, or even some of the scarcely less heathenish systems of theology which have survived to the present day.—*Pop. Science News.*

A DELICIOUS DISH.—"Do tell me, monsieur, what this delicious dish is," said pretty Mrs. H., the star boarder. "Zat, madame, zat is a grand triumph of ze art. Only ze Frenchman can mek ze delicious deesh—zat is ze—vat you call ze owel—ze pet owel." Owl! exclaimed a chorus of voices, and a dozen wry faces were made. "O monsieur, how could you have the heart to kill the poor thing?" chirped the star boarder. "It ees you zat mek so cruel accusations, madame; I no keel him—he die."

BOSTON'S SKILLFUL DENTIST,

DR. F. A. COOKE, D. D. S.,

voices the opinion of his profession regarding the



"In my judgment it meets just the desired need. After using **The Polisher** my teeth have a smooth, clean feeling that cannot be obtained with the bristle brush."

AT ALL DRUGGISTS.

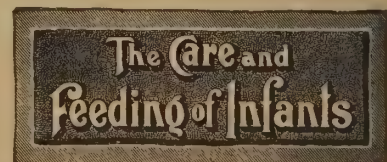
Its Economy. (Holder imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mailed.

HORSEY MFG. CO., Utica, N. Y.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

HYPNOTIC TREATMENT.

SUGGESTION AND HYPNOTISM AS THERAPEUTIC AGENTS.

Under the heading of "Faith Healing as a Medical Treatment," Dr. C. L. Tuckey, of London, had an exceedingly interesting paper in the *Nineteenth Century* for December. During the course of his annual holiday last August he visited the town of Nancy, attracted there by a professional curiosity blended with scepticism and prejudice. He went coldly to investigate and came away with a developed power of scientific vision. About thirty years since Dr. Liebault, of Nancy, conceived the idea of employing suggestion combined with hypnotism as a therapeutic agent, not merely for the relief of so-called nervous complaints, but for the cure of the majority of diseases which afflict humanity. His system was taken up by Prof. Dr. Bernheim, of Nancy, who publicly demonstrated its success in his hospital clinique. Liebault's system is now practiced by a considerable number of specialists and other medical men all over the continent. "Hearing for the first time of this treatment by suggestions, one may be inclined, if not to set the whole thing down as a delusion, at least to take for granted that the induced state is a form of hysteria attainable only by impressionable women or by men of unusually weak mental and physical organization, to consider it useless as a means of healing or effectual only for those *malades imaginaires* who are always in search of some new medical dissipation, and are prone to fancy cures as unreal as their ailments. Such a conclusion would, however, be entirely false. All physicians practicing this system are agreed that men, soldiers, out-door laborers, artisans of the most practical type, are, if anything, more susceptible than women." Having still doubts, Dr. Tuckey visited Amsterdam, where Drs. Van Renterghem and Van Eeden carry on an extensive practice among the middle and upper classes; here he watched with great interest the practice of these physicians. "One is asked whether treatment by suggestion has power over all form of disease? Over some it has none. It cannot remove developed cancer or tumor. It cannot reconstruct what disease has destroyed nor do the legitimate work of the surgeon's knife, neither can it stay the course of smallpox, diphtheria and other acute maladies. It frequently acts like magic on rheumatism, on paralysis, on hysteria. It has decided power over evil habits and vicious propensities. Dr. Liebault has counted among his patients many slaves of alcoholism. The doctors at Amsterdam told me they had treated many victims of the morphia craving with good results." Dr. Tuckey also describes the plan adopted to induce the hypnotic state, and discusses definitions and theories—but it yet remains a mystery, though Professor Charcot, of Paris, and others, are trying to make it clear—and closes his entertaining and suggestive article by stating that there is no physiological reason why the majority of people should not possess power to hypnotize, but that there are the strongest moral reasons why that power should be exercised only by approved persons and within strictly regulated limits.

KANSAS BEEF.

A SENSIBLE VIEW OF THE LOCAL INSPECTION QUESTION.

The following practical ideas regarding the inexpediency of the projected beef-suppressing bills is especially significant as emanating from a beef-raising centre. It is quoted from the *Wichita (Kansas) Eagle*:

The local butchers of Pennsylvania, or, more properly speaking, Philadelphia, some timesince, in their own interest and in opposition to Western beef, started an agitation in favor of local inspection of all live cattle intended for food. The cry was taken up by butchers in a number of States, until in many instances local authorities passed ordinances to meet the demands of the butchers in that particular. Of this last we have no complaint to

make. If any community concludes that it is more to its interest to support the local butcher than to have cheap meat for their people, and its people are satisfied with such an order of things, it probably does not become any one else to complain. Such communities are simply paying their good money to sustain what they happen to consider an important local interest. But this question is liable to take a wider scope of far-reaching consequences. It is known that the Pennsylvania agitation and the false showings made in pursuance of sustaining that agitation, resulted in the raising of a committee of inquiry by the United States Senate. Now we learn that a bill is to be introduced in the Kansas Legislature for the purpose of controlling the matter as a State matter and by the State. If great care is not exercised, the cattle interests of Kansas will get such a back-set as will fairly make our farmers and stock-raisers groan. The first result will be that Eastern legislatures will at once say that if Kansas as a State is afraid of her own meats, then the quicker we pass a similar law the sooner will the health of our people be protected. With such laws on the statute books of a majority of the Eastern States, what would become of the markets for Kansas and other Western cattle? There would be no market, except as the beeves of the West were sent around here and there in pairs and dozens to the scattered local markets, which process would ruin the price of live stock throughout the West to the producer in freight charges. This is not said as against the demand for wholesome meats. Every member of the Kansas Legislature is intelligent enough to understand the animus of this inspection move. It comes of the agitation of local butchers. So long as it is left to individual communities of the several States and is not made a State matter, there is not likely to be any counter move made by other States, which counter move would directly and immediately affect the price of our cattle. The cry of diseased cattle is for the most part purely pretence. If there is any ground for such cry, then let the State have a law whereby a State inspector may be appointed for each packing centre. But great care will have to be exercised, or any law passed on the subject will prove a burden to the Kansas farmer and the Kansas stockman, and live stock is the greatest source of income to Kansas to-day. If Topeka or Atchison don't want the cheaper dressed meats of the Kansas City, Kan., packing houses, let them say so through an ordinance providing for local inspection. That's all proper if they so choose. Nobody will force their meats upon them. But don't permit any legislation which will affect the great packing interests that the State has at Kansas City, Kan., and others which will become as great in the State, and all of which insure not only a better price to the farmer for his stock, but redound to the wealth and commercial importance of the State.

FOOD ADULTERATIONS.

REPORT OF THE COMMISSIONER OF INTERNAL REVENUE.

The adulteration of alimentary substances has been practiced from the most ancient times, and numerous laws and regulations have been adopted in various countries to check and prohibit such sophistications. France has taken the lead in protecting consumers of food from adulterations, and in 1802 the Conseil de Salubrite was established in Paris. In England, as well as in France, Germany, and other Continental countries, laws against the adulteration of individual articles, such as tea, coffee, beer and wine, have been passed since the Middle Ages. The first general act was not passed in England till 1860, and this was amended in 1872. However, they were found unsatisfactory, and the Sale of Food and Drugs Act was passed in 1875, and further amended in 1879 in the endeavor to obtain a workable law. The latter law is now in force, though the third and fourth sections of the act relating to the mixing, coloring, staining, or powdering of any article of food so as to injure health, or in the case of drugs so as to injure their

quality, are practically of no value and unenforced, because the fifth section provides that guilty knowledge is essential to the proof of the offence, and no prosecution, unless supported by very exceptional circumstances, would be successful under these sections. Sections six to nine are the ones that are found workable, and provide that no person shall sell food or drugs, with certain exceptions, to the prejudice of the purchaser; shall not abstract any constituents of food, and that compound foods or drugs must be in accordance with the demands of purchase, though with these sections again a large loophole for the escape of offenders is provided in section eight, which states that a legible descriptive notice that the article sold is a mixture exonerates the seller. In this country, in 1877, several of the State Boards of Health united, viz.: Those of New York, New Jersey, Massachusetts and Michigan, and at their instance laws formulated on the English laws were passed, and annual reports are now made by these boards on the results of the examinations of their chemists on the adulterations of food and drugs practiced in their several States. On June 26, 1848, an act was passed by Congress to secure the purity of imported drugs, and is still in force. Its efficacy is directed principally toward Peruvian bark and opium. The tea adulteration law was passed by Congress March 2, 1883, and on August 2, 1886, the oleomargarine law was passed, defining butter and butter substitutes.

The following list of the most common adulterants met with in the principal food products is compiled from the reports of the State Boards of Health, the returns of the English Inland Revenue Department, and of the Report of the Municipal Laboratory of Paris:

FOOD PRODUCTS AND THEIR CHIEF ADULTERANTS.

Food Products.	Adulterants.
Milk.....	Water, removed of cream, addition of cottonseed or oleo oil to skim milk.
Butter.....	Water, salt, foreign fats, artificial coloring matter.
Cheese.....	Lard, oleo oil, cottonseed oil.
Flour, bread.....	Other meals, alum.
Baker's chemicals.....	Starch, alum.
Canned foods.....	Metallic poisons.
Tea.....	Exhausted tea leaves, foreign leaves, tannin, indigo, Prus. blue, turmeric, gypsum, soapstone, sand.
Coffee.....	Chicory, peas, beans, rye, corn, wheat, coloring matter.
Cocoa and chocolate.	Sugar, starch and flour.
Beer.....	Artificial glucose, malt and hop substitutes, sodium bicarbonate, salt, antiseptic.
Syrup.....	Glucose.
Honey.....	Glucose syrup, cane sugar.
Confectionery.....	Glucose, starch, artificial essences, poisonous pigments, terra alba, gypsum.
Olive oil.....	Cottonseed and other vegetable oils.
Vinegar.....	Water, sulphuric acid.
Pickles.....	Salts of copper.
Spices.....	Flour, starches of various kinds, turmeric.

An inspection of this list shows that the great majority of substances used for adulterants are not injurious to health; the public is cheated, but not poisoned. They consist for the most part in the willful and fraudulent addition of substances which do not exist in the normal product, or are only found there in an appreciably lower proportion. Another large class consists of simple alterations by the willful and fraudulent subtraction of some substance that is normally present in the product, and which is not found in the abnormal product, or only in an appreciably lower proportion. The number of substances used that are positively injurious to health is small, and they generally make their presence felt by the prompt manner in which dangerous symptoms manifest themselves in the consumer. Such are the arsenic, copper, lead, and other metallic poisonous salts that are sometimes used for artificial colors in candies, pickles, etc. The use of antiseptics, such as salicylic acid, sulphite of soda, borax, etc., for the prevention of

fermentation in improperly prepared foods, is daily becoming more frequent. These deserve mention as being additions to foods of a class of substances used to cloak carelessness in manufacture, and producing, in many cases, deleterious effects on the human economy. The addition of such antiseptics as salicylic acid to food products is prohibited in France and Germany, though in the latter country such use is allowed when the food product is exported to countries where such addition is not prohibited. Food adulteration is carried on by manufacturers in the interest of pecuniary profit and gain, and they take pains to keep themselves well posted on the subject of cheap and harmless substitutes. This is well illustrated in the most recent form of milk adulteration. The whole milk is placed in centrifugal machines and nearly all the cream fat removed. The machines are then stopped, another drum called the emulsifier put in, or sometimes the same machine is used, the machine restarted; and a charge of cottonseed oil or melted "oleo oil" is then, together with the warmed skim milk, run in sufficiently to bring up the fat contents and specific gravity to those of ordinary milk. A description of such machine will be found in "Engineering," vol. 44, 1887, p. 478. The manufacturers of these machines also describe such emulsifiers in their catalogues. It would be an impossible, not to say a ridiculous, attempt to convince any court or jury that ordinary potable water was either externally or internally "injurious to health," yet it is the most common adulterant used. The watering of milk is everywhere recognized as not only a fraud, but also a very grave misdemeanor, if not actually a crime. This is the food on which the whole population under one year old is fed; and where the mother cannot supply the proper nourishment for the child she must depend for its bringing up on cow's or other milk. It is self-evident that a pint of watered milk does not contain the same amount of nourishment as the same volume of whole milk, so that a child or invalid might be actually starved to death if compelled to rely on the former for its sole nourishment. Many drugs are used both in the arts and in medicine, different degrees of purity being demanded for these different uses. We have such substances as the mineral acids and alkalies, salts of arsenic, antimony, copper, lead, mercury, etc.; alkaloids as aconitine, cocaine, morphine, strychnine, etc.; some organic acids and salts, that are found on the market chemically pure, but which are universally conceded to be very "injurious to health," without any adulterations whatever. Whilst most medicines are drugs, some are not drugs, and again many drugs are not medicines. So that the definition of a medicine should be clearly stated in any law on the subject. The law should be so worded and the penalties imposed for violations so severe that it will deter persons from engaging in the practice of adulteration of food products; in other words, the risks incurred will not pay for any profits that might result from non-compliance with the law. Possession or ownership of an adulterated article of food should be sufficient ground for conviction in a civil action without knowledge in the possession of the dealer that the same was adulterated, being demanded from the prosecution. Many food products spoil in transportation, and penalties ranging from a nominal fine to imprisonment for a term of years should be provided, if, on account of dealing in and consumption of articles so spoiled, or in those injurious to health, a death or even a severe sickness is caused by the same. The inspection of meat, fish, vegetables, fruit, and especially milk, should be done daily in any large city, and properly belong to the health department of such city. Provision should be made for the character of the packing and quality of the vessel, either metal or glass, in which food products are put up. Acid foods will attack and dissolve the solder with which tin packages are closed, and such foods should be put up in glass or acid-proof vessels. The drawing of liquids like beer, vinegar, etc., intended for food, through lead or copper pipes should be prohibited, and iron or block-tin pipes only allowed. Where samples of food products are re-

ceived from the public at large they should be accompanied with an affidavit stating the facts in the case and a small fee for the analysis of the same should be paid in advance. The law should provide for the procuring, by purchase or otherwise, of a sufficient sample and of properly identifying the same. Also for the proper chemical or physical examination by competent analysis, including the salaries of the force employed, the fitting up and maintaining a properly equipped laboratory, including chemicals, apparatus and the purchase of samples by duly authorized agents. All adulterated goods, when sold as such, should be so branded with the word "Adulterated" or the words "This is a mixture," in letters printed in broad-faced type at least one inch long and affixed in a secure and conspicuous place either by a label to the vessel containing the goods or on the goods themselves, and likewise such goods should be wrapped in paper or other covering with said words printed on both sides of the wrapper.

CHARITY AND RED TAPE.

FIVE CASHIERS REQUIRED TO PAY A BREAD BILL.

The Paris correspondent of the *Confectioners' Journal*, writing February 7, gives the following description of the manner in which sleepy old-time customs are perpetuated in even that lively city:

"During the winter months in Paris various charitable societies issue bread tickets, called *bons de pain*, which are on sale at the tobacconists, and cost ten cents each. Charitable people, who don't care about giving money to the poor, buy these tickets and distribute them to the indigent, and every baker in Paris exchanges a 1d. worth of bread for one of these tickets. Business having called me the other day to the *Caisse de la Boulangerie*, or Central Baker's Cash Office, I was present at the refunding to the bakers of cash in exchange for the tickets they had received from the poor during the past month. This cash office is situated on the Quai d'Anjou, near the far-famed Hotel Lambert. The cashiers consist of five master bakers, who volunteer for the service, and these five were seated at a long table. In front of four of these gentlemen were piles of oblong-shaped pieces of black cardboard, which had very much the appearance of slates without frames. In front of each pile of slates was a pile of money—one of copper, one of silver, one of gold, and one of bank notes. The fifth cashier, who sat nearest the door, had neither slates nor money. It was his duty to examine and initial the written bill presented by each baker as he came in. This account he then passed on to his colleague at his side, who had the copper in front of him. This gentleman examined the bill, and then took from his heap of copper the amount of pence in the balance of the account, placed them on one side of his slates and passed this to his colleague with the silver, who added the amount of loose francs marked on the bill, and then passed it on, on the slate, to the gold cashier, who, having added the gold pieces requisite, handed it to the bank-note cashier, who added bank notes to make up the amount of the bill, and paid over the amount due in notes, gold, silver and copper to the baker, who had followed his bill behind the chairs. As a sample of Old World tomfoolery this account of how bills are paid in Paris will certainly interest Americans. Does it not seem incredible that in a business age, when time is literally money, such a custom, surviving from the darkest middle ages, should be tolerated? It took just five minutes for each bill to pass through the hands of the copper, silver, gold and bank-note cashiers before the baker got his money. This absurd mode of payment, I am glad to say, exists nowhere else in Paris, and is a survival of the customs which were in force in the mediæval 'ancient and worshipful company' of master bakers in Paris. In those hoary times massive silver trays were used for carrying the 'buddle' from the company's cash box or treasure chest to the baker who had to receive it. On one tray gold was carried, on another silver, and on another cop-

per. Stately nonsense of this sort was all very well in the days before America was discovered; in the nineteenth century it is a downright anomaly. The only sensible thing about this *Caisse de la Boulangerie* is that on the premises is a large oven in which any baker in Paris, at an emergency, or in case of accident to his own private oven, can have his bread baked."

FISH FANCIES.

HOW THE PUBLIC PALATE IS TICKLED WITH IMAGINARY DELICACIES.

After all there is a vast deal in a name. "Sardines in olive oil" sell readily as disguised Eastport herring in cottonseed oil. "Ocean trout" and "Alaska mackerel" are considered far superior to the common menhaden from which they spring. "Pickled whitefish" are much more satisfactory to the imagination than the weakfish which represent them in the market. "Cod steaks" sound promising even when cut from the savage wolffish. "Kennebec salmon" are always in demand whether from Maine or in the guise of redfish and steelhead from Oregon. It is, therefore, with little surprise we hear just at this time of the wonderful dinners provided by a celebrated restaurateur in Washington with "young halibut" from Norfolk as the chief attraction, transformed and idealized from the homely and humble winter flatfish, which has approached our shores, not to thrill epicures, but to deposit its eggs peacefully. We are reminded of a circumstance in a noted coffee house in Melbourne a few years ago which created a great deal of excitement. The proprietor introduced a fish of surpassing sweetness and delicacy of flavor, under the name of "Sweet William." His patrons eagerly devoured "Sweet William" and the fish had a tremendous run. It was tender, juicy, and entirely free from bones. All went swimmingly for a time. Inquiries failed to reveal the name of the new favorite until one luckless day somebody saw a barrelful of young sharks go into the establishment, to be translated into "Sweet William." Then the volume of business suddenly shrunk and the air was black with threats of suits for damages by enraged customers. And so that's what's in a name.

SEASIDE SWINDLES.

HOW GUESTS ARE FLEECEED TO ENRICH THE SERVANTS.

According to a writer in the *Hotel Mail* the managers of the Coney Island hotels are satisfied, after thorough investigation, that a few men in their employ have made thousands of dollars over their salaries out of the waiters under them, forcing these latter to rob the guests in order to get even. There is always a demand for tables on the piazzas, and guests are willing to pay the waiters for seats at them. They, in turn, pay handsomely for having these tables placed in their charge. A representative of one of the hotels makes the following statement of some of the swindling methods in vogue: "A new waiter was taxed \$10 on the start by the second head waiter, the captains over him taxed him \$1 per week, and a forced collection of \$5 was squeezed out of all the waiters for the benefit of the head waiter. If business was particularly good each waiter was notified that on the following day a cash collection would be taken up for the benefit of the head waiter, and the unfortunate who did not subscribe was discharged. In this way the men over the waiters made about \$5,000 each season out of the waiters alone. They, in turn, got even as follows: If two or more guests ordered double portions, only one portion would be served, and if an expensive brand of wine was ordered, an inferior quality would be served. These officials had a scheme to bleed the wine agents. No new brand was added to the bill-of-fare unless the agent paid well for it. There are a number of saloons in this

city at which the waiters assemble, and where the head waiters apply for a crew. The waiters who have been liberal spenders at his saloon are placed on the list after they pay the necessary fees." A waiter excuses his misdeeds by saying: "The demands made on us are outrageous. At a seaside hotel last year the waiters had to pay the head waiter \$5 almost every day there was any business, and for the slightest offence were discharged, only to be taken back again on the payment of a big fee. During the slack business of wet weather we had to pay the head waiter from \$2 to \$5 in order to hold our positions. We got even by beating the hotel and the guests whenever we could. We all had waterproof pockets in our jackets, and for 15 cents the cook would give us a tenderloin steak. Ten cents to the cook would secure an ordinary steak and a quarter would obtain a chicken. These things were thrust into the waterproof pocket and we would then pass the checkers fearlessly. At the race track restaurants, where we paid \$5 for a job, we got even in this way: Each of us carried a satchel, and when in town we would fill it full of wines, cigars, cold chickens, and almost every other thing that would sell. During the rushes we would sell our own food, pocket the money, and the restaurant food would remain untouched."

FASHION'S FOIBLES.

THE MINOR ADDENDA AND ACCESSORIES OF DRESS.

Just now the repetition of the proverb, "Despise not the day of small things," is hardly necessary, as the most diminutive articles, the fashionable addenda and the accessories to the dress of both men and women, are considered by many as of prime importance. One cannot study the dainty designs of watches, scarf-pins, studs, rings, etc., etc., without feeling a wondering admiration for the brains of the jewelers whose inventions these are. Ladies' watches are small, and may be had from the plain gold stem-winder to that encrusted with jewels. Among the latter is one especially gorgeous, the case being entirely covered with diamonds and rubies set clear through the gold. The fob-chain and the ball at the end of it are studded with the same jewels. Chatelaine watches are becoming fashionable again, and are undoubtedly very convenient, both for wearer and pick-pocket. They are elaborately ornamented with jewels. A new departure is a much less expensive but remarkably pretty little watch of silver. It has an open silver face with gold hands. This case is embellished with *repousse* work, or raised ornamentation, done by men especially for this purpose. We have had silver watches for ladies for years, but nothing before as elaborate and comely as these. Then too they are so reasonable in price, that a woman whose purse is not very long can afford to buy one. The pretty fobs still hold their own, and certainly are preferable to any other chain ever invented. They come set with jewels, enameled, in plain gold, or in gold and platinum. Gentlemen's time-pieces are now made perfectly flat and thin. The open-face is preferred by many to the hunting-case. One of the handsomest of these is of plain, polished gold, the crystal over the open face put on in such a manner that is impossible to tell where the metal on the smooth, rounded edge ends and the crystal begins. The dial is of gold with figures of dark red enamel. This time-piece is a repeater, and fortunate is the man who becomes the possessor. If a monogram is to be engraved on a watch, it should consist of small, neat letters instead of the large, elaborate ones in vogue a few years ago. For evening dress, a gentleman should use the black silk fob-guard with a gold buckle or pendant of some kind, or he may wear an almost invisible chain. The latter, though pretty, is not as good form as the silken guard. For business wear, heavier chains are carried. Some of these are double and may be worn thus on one side, or be separated, the watch on one side, a gold pencil on the other,

and put in opposite vest pockets. Gentlemen's gold lockets are, like their watches, very thin, and are offered in a variety of designs. One, rather sentimental, but pretty, is a gold heart with "*Mizpah*" set in diamonds across it. Stone pendants, engraved with the family crest (if one owns such a thing) or the monogram, are handsome. For these blood-stone is in great request. Compasses or thermometers as pendants can be had in elaborate settings. One, intended especially for a yachtsman, is surrounded by a coil of gold rope held in place at the top by a tiny gold spy-glass. Necklaces are light and tasteful. One is of tiny pearls with a pearl pendant in the shape of a pansy. Another is a delicate chain of gold, holding small flowers with petals of jewelry as nearly as possible like the coloring of natural flowers. Heavy bracelets are not *a la mode*, and in their place we have the thin hoops of gold studded on the upper edge with sapphires and diamonds, diamonds alone, and all varieties of stones. Nothing is prettier than the bracelets of square links, some plain, some *repousse*, and some with jewels set irregularly in the links. Tiny ear-rings have entirely substituted the large jewels of bygone days. The correct thing is a very small diamond screw set close to the ear. Little pearls, one for each ear, are very dainty. Whatever stone is used in the ear-ring should be small. Gentlemen's studs for evening wear are also decidedly diminutive. Three should be worn, and may be made of gold, tiny diamonds, pearls or moonstones, with very little or no setting visible. Scarf-pins are in fashion again, and are of a cluster of stones or some fanciful design. Men should wear sleeve-links, which come in great varieties. Ladies wear sleeve buttons, not links. Perhaps the two most ridiculous fashions are those of the jewelled thimble and garter-clasp. But people must have something on which to spend their money, and these certainly are harmless luxuries. The most elaborate thimbles are of gold *repousse* work, finished at the bottom with a ring of diamonds and rubies. It is hard for us to imagine how these can be used in sewing without abrading the next finger to that on which the thimble is worn. The garter-clasps are plain gold or encrusted with jewels. The long cut-glass vinaigrettes are "out." Instead of the silver girdle of last year, the belle wears a chain fastened at the side by a long silver pin, and to this chain are attached the smelting-bottle *bonbonniere*, memorandum-book, pencil, and as many other silver-mounted articles as a woman wishes to carry. For gentlemen's rings nothing is handsomer than the engraved seal ring. One has a variety of stones from which to choose for this purpose. It is impossible to attempt to describe ladies' rings for they are beautiful and varied beyond precedent, with diamonds solitaire and in clusters, diamonds with rubies, emeralds, sapphires, opals, moonstones, pearls, etc. Moonstones and opals are fashionable, though some people have never overcome the foolish superstition with regard to the mystic opal, which has become poetically described as "a pearl with a soul in it." The very heavy wedding-rings are bought chiefly by the Hibernian bridegroom, who wants to make as much display as possible for the money, and who possibly wishes to prefigure, in the immense ring which wears the finger on which it is placed, the irksome weight the Milesian conjugal yoke generally proves to be. People who are better informed as to the mutations of fashion regard quality rather than dimension in the choice of this important symbol. Gentlemen's match-boxes and ladies' card-cases are very much alike in design, though they differ in size. They may be purchased in gold, silver, and in gold and platinum. Thanks for information in this department are due to TIFFANY & Co., through the *Home-Maker* for February.

A BIG BAR.—The second largest bar of bullion ever melted in the United States assay office at Helena, Montana, was handled September 27, by Melter Mayendorf. It came from the Jay Gould mine, weighing 2,500 ounces was a little over 600 fine in gold, and was worth about \$27,000.

A LINGUISTIC COMPLICATION.

WHY AGAMEMNON FORGOT HIS NATIVE LANGUAGE.

When Agamemnon Jones called one evening upon Miss Clytemnestra Smith, he was startled to a pallid-hueness by hearing her exclaim:

"By jeemenetty crickets! yer was skeered. Ef yer's got anything to say, spit it out. My certis! here's a pretty chamjamfrey! He gied me a caird, but I maun left it below. The pur, shamby, slanchly windelshae o' a creature. An' he ass me iss I want to wuck fo'—"

Agamemnon (wildly): "Great heavens, Clytemnestra! What is the matter with you? Your iced tea was tampered with! Your cream soda—oh, my darling, if you *can't* talk United States, make signs!"

Clytemnestra (contemptuously): "Agamemnon, you don't keep up with the spirit of the age. I was merely quoting from the current literature of the day."

Agamemnon (pathetically): "Browning?"

Clytemnestra: "No, you ignorant Agamemnon; that is not Browning. I was just quoting from magazines, those educators of the age. And, if you want to keep pace with me, Agamemnon, you will have to learn to converse in that style, or you will get most 'boda-ciously' left. Study the *Century*, *Harper's*, any of the best magazines, and you will soon catch on."

Agamemnon (very meekly): "I shall obey you."

And he did. And in less than a week he was entirely unable to converse intelligibly in his native language, and is now earning fifty dollars a day writing magazine stories.—*Puck*.

HIS OWN DIAGNOSIS.—*Mother*—"And do you really feel so very bad, Bobby?" *Bobby*—"Yes, ma. I aint quite sick enough to need any medicine, but I'm a little bit too sick to go to school."

BRILLIANT IDEA.—According to the *Progressive Age* a French electrician, M. G. A. Tabourin, has invented a novel and practical method of lighting the streets which will do away with underground mains and permit the rapid extension of electric light throughout Paris without interfering with the gas companies. In this most wondrous proposal each gas lamp is to be furnished at its base with a small rotary gas engine ten inches in diameter, with a small dynamo and these small installations are to supply lamps on the top of the lamp post, thus burning gas at the bottom and producing electric light at the top of each post. The inventor offers to run at his own cost for several days opposite the Theatre Francais one of these electric lights on his new system.

UTILIZING HUSKS.—One of the best utilized waste products in Australia, resulting in the manufacture of large quantities of paper and cloth, are corn husks. These are boiled with an alkali in tubular boilers, as a result of which the fibres of the husks are found at the bottom of the boiler in a spongy condition, filled with glutinous substance, and which proves to be a perfect dough of corneal, containing in a concentrated form all the pabulum originally contained in the husk. The glutinous matter is pressed out from the fibres by hydraulic apparatus, leaving the fibre in the shape of a mass or chain of longitudinal threads, interspersed with a dense mass of short fibres. The linen made from the long fibres furnishes a very good substitute for the coarser kinds of flax and hemp and is superior to jute, gunny cloth, coir and the like. The paper for which mostly the short fibres are used—the long fibres constituting the material for spinning—is stronger than papers of the same weight made from linen or cotton rags, its hardness and firmness of grain exceeding that of the best dipped English drawing papers, being especially adapted for pencil drawing, stenographic writing and water colors; its durability exceeds, it is claimed, that of paper made from any other material, and the corn-husk parchment is not at exposed points destroyed by insects. If the gluten is left in the pulp the paper can be made extremely transparent without sacrificing any portion of its strength. Again, the fibre is easily worked, either alone or in combination with rags, into the finest writing or printing papers; it also readily takes any tint or color, and can be worked almost to as much advantage into stout wrapping papers of superior quality as into fine note and envelope papers.

THE MINUET.

HOW THE DANCERS' FEET ARE TRAINED TO ITS MEASURES.

"The first thing," says a teacher of the newly-fashionable minuet, "that a lady has to learn is to hold the skirts of her dress. In the beginning of the minuet she must take her overskirt with both hands, just clutching the edge of the garment with the tips of the fingers, and raise it from the floor about as high as the tips of her boots. Then standing squarely upon both feet she is in the first attitude of the minuet. Following that comes the bow, which is a most difficult accomplishment. I think it quite likely that one of the reasons why the minuet went out of favor was the very considerable degree of skill which is required to dance it properly. It is even easier to learn to become a first-rate waltzer than an indifferent minuetist, if I can use the word. The bow is made by drawing the right foot back and placing the toe upon the floor and bending the whole weight of the body back upon it and keeping the left foot square down upon the floor. The lady should sink herself as far as possible without losing the balance. As she goes down, the heel of the left foot may come slowly off from the floor, but the heel of the right foot must not touch it. It is an exceedingly trying movement until one has mastered it, and it takes not only muscle, but some nerve, to keep the equilibrium. In this movement the lady must not take her hands from her skirts, her eyes must be directed slightly upward, and her head should not bow forward. It should rather turn a little bit in the direction of the eyes. The movement must be made very slowly, and the recovery executed with equal deliberation. The gentleman's bow during this interesting process is of a similar nature. It consists in laying his hand upon his heart and bending forward very low. Partners should recover at the same moment. There is another old dance somewhat similar to the minuet in its measured etiquette, and that is the pavane. In that the bow is very similar to the one in the minuet, the difference being that she inclines her head forward and looks down upon the ground. It sometimes is a harder thing to prevent ladies from looking upon the ground than to teach them to keep their balance upon their toes. I remember when I was studying the ballet in Paris that the teacher was always crying out: "Come, ladies, are you looking for pins upon the floor?" The novice, you see, is always in terror about her feet, and apparently wants to look down to see if they are all right. As a matter of fact, the balance can be much better preserved by looking upward, and it is a much more graceful way of doing it."

SANITARY SCIENCE.

IMPORTANCE OF ITS PROPER APPRECIATION TO THE PUBLIC WELFARE.

Much attention of late has been given to country residences, both by sanitarians and the trades allied in interest in house construction. Very extensive observations have been made by Dr. Lucy M. Hall, who recently delivered a lecture before the Academy of Anthropology in New York on "Sanitation in the Country." She has examined over one hundred and fifty country houses in the East and in the West, and gives it as her opinion that the country house is not the healthful place it is usually supposed to be. She has robbed country life of much of the charm with which people in crowded cities have robbed it. A vacation in the country, according to her opinion, is not assured of the promises of health with which many bent on a summer outing regard it. She has found disease and death lurking in the vine-clad cottage and in the cool retreats of the shaded dwelling. This state of affairs is produced by the ignorance of hygienic laws and their violation. Among the evils found to exist are improper drainage, uncemented cellars, failure to ventilate sleeping apartments, exclusion of light, too much shade about the

house, and the improper disposal of kitchen refuse. It is probably not saying too much to state that a majority of country houses owe their escape from more continuous and fatal sickness to the free circulation of the air, the cleansing effects of rains, frost and other natural agents, more than to any regard for sanitary laws. Were the average of country homes crowded together, and shut out from the free action of these agents, as in a crowded city, their sanitary condition would become deplorable. Nature abhors disease, and in many ways attempts to remedy the evils caused by man in the violation of her laws. But the transgressor can go too far. He can trespass too rudely upon her broad benefactions; can weaken the hand that extends to him benedictions, and must suffer. Her laws violated and her strength impaired, artificial means must be resorted to in order to supply the loss. Herein we see the strides made by sanitation; herein we see the lack of it in the country home nestling upon the broad bosom of earth, where nature, uncontaminated, would be sweet and pure. Man not only pollutes nature and weakens her forces, but, through his indifference and ignorance, makes a habitation possible only for disease, and bequeaths to posterity a legacy of constitutional ills. The report of Dr. Hall does not stop with pointing out these evils that a remedy may follow, but, if only half true, it emphasizes in a very direct manner the value of sanitary science as related to the home. Had the science not stepped to the rescue, our crowded cities would have been suffering from the ills that afflict the country house, aggravated by almost limitless accumulations. We are apt to look upon the architect, engineer, builder and plumber as so many people engaged in solving for themselves the problem of bread and butter, and not as so many agents assisting nature in the preservation of life and health. We invite the physician to heal our ills, and shut the door to that science which prevents disease. We rightly esteem the health officer whose diligence procures us pure water, but too lightly regard the responsibility resting on the plumber who safely conducts that water polluted by use from our dwellings. Sanitary science has not only made great advancement, but it has to a marked degree educated mankind up to a recognition and appreciation of its virtues. Its claims are so well established and accepted that a disregard of its teachings and laws can be considered but little less than a wilful act of criminality.—*Sanitary News*.

SEVEN.

AN ATTEMPT TO INVEST THE NUMBER WITH A MYSTIC SANCTITY.

A writer in the *Agricultural Implement* has been studying over the mystical number seven, and concludes that it is undoubtedly the sacred number. There are seven days of creation; after seven days' respite, the flood came; the years of famine and plenty were in cycles of seven; every seventh day was a Sabbath; every seventh year is the Sabbath of rest; after each seven times seven years came the jubilee; the feasts of unleavened bread and the tabernacles were observed seven days; the golden candlestick had seven branches; seven priests with seven trumpets surrounded Jericho seven times and seven times the seventh day; Jacob obtained his wives by servitudes of seven years; Samson kept his nuptials seven days, and on the seventh day he put a riddle to his wife, and he was bound with seven green withes, and seven locks of his hair were shaved off; Nebuchadnezzar was seven years a beast; Shadrach and his two companions were cast into a furnace heated seven times more than it was wont. In the New Testament nearly everything occurs by sevens, and at the end of the sacred volume we read of seven churches, seven candlesticks, seven spirits, seven trumpets, seven seals, seven stars, seven thunders, seven vials, seven plagues, seven angels, and a seven-headed monster.

TURKISH STYLE.

HOW THE SULTAN IS FED AND CARED FOR.

Among the inferior domestic servants of the Sultan of Turkey there are "ten table masters," who cater for the palace kitchens and see that the Imperial tables are duly supplied with food and properly served. Next come ten maitres d'hotel, who superintend the ordering of the menus and the cooking of the meats. The cooks and turnspits, who receive their commands, number 300, while the services of 200 waiters are required in the different dining rooms of the Yildiz Kiosk. Besides the inmates of the palace many persons living in its immediate neighborhood draw by prescriptive right their daily supplies of food from the Imperial kitchens. It is estimated that 800 families, including 4,000 individuals, live in this way at the Sultan's expense. Abdul Hamid employs in his palaces 100 porters, of whom twenty-five are attached to the Yildiz Kiosk and twenty-five watchmen are afoot during the night. Ten servants are charged with the sole duty of carrying and unfolding the Sultan's carpet when he goes to prayer. Ten others, called tutundjis, have the care of His Majesty's pipes and tobacco. Ten cafedjis give all their time to the roasting, grinding and making of His Majesty's coffee. The due order of the Imperial wardrobe is assured by the constant attention of twenty properly qualified employes. Thirteen others keep an eye on the Imperial valise. Five armorers are responsible for the perfect condition of the Sultan's arms. Eight men look after the chandeliers, torches and flambeaux, and eight take care of the aviaries and aquariums. The master of the Imperial stables has under his orders 220 coachmen and grooms, and 100 boatmen receive their instructions from the master rower. The expenses of such an establishment as that of the Yildiz Kiosk are necessarily enormous. The Sultan's civil list figures in the Turkish budget for a million sterling, but it is said the actual expenses of his majesty's household, harem and palaces reach a total of at least £2,200,000 annually.

A NEW USE FOR ELECTRIC LIGHT.—The Superintendent of the Madras Museum has been requested by the Board of Revenue to visit various electrical establishments in Europe in order to select an electric globe light to shine in twenty fathoms of water. Such a light is wanted at the pearl fisheries, for, up to the present, the work of the fisheries has been confined to comparatively shallow banks.

PREHISTORIC RELICS.—The *Oder Zeitung* reports the finding in the Lossow district, near Frankfort-on-the-Oder, of about thirty clay vessels of various sizes and patterns, some urns, some pots, deep saucers, flasks, etc. They were filled with the ashes of burnt corpses mixed with sand. The color was a brownish-yellow; some were broken, and the fractures showed that coal ashes had been mixed with the clay of which they were made. Some bronze needles were found with them, being finished at the top in a semi-circular shape. The vessels seemed to have been formed on a lathe, tolerably smooth, regular in shape, and only slightly baked. The largest were about thirty centimetres in diameter at the widest part and twenty-six centimetres high. The ornaments were either triangles or semi-circles, scratched on the surface with points impressed on the surface. Possibly the site where they were found was a refuge and a place of sacrifice in old German times.

CONTAGIOUSNESS OF CONSUMPTION.—Mr. MacMullen, in the *Australasian Medical Gazette*, calls attention to the danger to which healthy travelers are subjected by consumptives. To illustrate this danger, he narrates a case in which a healthy man, on the voyage from London to Australia, was placed in the same stateroom with a consumptive in search of health. Now that consumption is regarded as a communicable disease, there is no longer excuse for this commingling of well and sick in such confined quarters as a ship's stateroom. Steps should be taken by the owners of steamships and other vessels to separate those who are so unfortunate as to have consumption from those that are healthy, to the degree, at least, that the unsuspecting traveler would not be required to breathe the air impoverished and possibly infected by an invalid suffering from pulmonary consumption.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

March.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, veal.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish, trout.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress.

FRUIT.—Apples, bananas, oranges.

PRACTICAL RECIPES.

BEAN SOUP.—Parboil a pint of beans; change the water and boil them till perfectly tender; season with pepper and salt and add a large tablespoonful of butter. Skim out half the beans; to the liquid and remaining half of the beans add a teacupful of sweet cream or rich milk; let it boil up well, and serve.

POT ROAST.—Put a thick piece of beef, with a little bone and fat, an onion, and, if liked, a sliced carrot, over the fire in a pot; just cover with boiling water. Put on a tight lid, and boil gently for four hours, replenishing the water as it boils away with just enough to keep the meat from burning, so that there will be hardly any water left; when it is tender, turn occasionally, and let it brown in its fat when done. Take the meat out of the pot and make a gravy with the drippings; pour over the meat and serve.

DEVILLED OYSTERS.—Dry the oysters and lay in a flat dish; make a mixture of melted butter, lemon juice and Cayenne pepper; pour it over the oysters, and let them lie in it for ten minutes, turning often; take them out, roll first in cracker crumbs, then in beaten egg, again in the crumbs, and fry in half lard and half butter.

STEWED CORN AND TOMATOES.—To two pints of corn add two tablespoonfuls of butter, pepper and salt and just enough water to cover. Put in a saucepan, cover, and cook slowly till tender, stirring often and adding a little water if necessary. Have ready about two cupfuls of stewed tomatoes, and add to the corn just before serving. See that the seasoning is right before dishing. Canned corn and tomatoes may be used if desired.

CORN BREAD.—Two cupfuls of fresh meal, one cupful of flour, one teaspoonful of salt, and two heaping teaspoonfuls of Horsford's baking powder thoroughly sifted together; when the oven is hot, add two well-beaten eggs, two teaspoonfuls of softened butter, half a cupful of syrup or sugar; stir all with cold sweet milk or water to a soft dough; place in a pan and bake immediately.

SALAD DRESSING.—Peel and boil a large fine potato; mash well and, when cool, add the yolk of a raw egg, a teaspoonful of mustard and a little salt; stir well together; add two tablespoonfuls of olive oil and vinegar very slowly, stirring constantly so that it may be very smooth. This is nice with chopped celery or cabbage.

ORANGE CUSTARD.—Peel and slice six oranges, put them in a deep glass dish, with alternate layers of sugar, and let stand for two hours. With one pint of milk and the yolks of three eggs make a soft boiled custard; sweeten and flavor with grated orange peel. When it has cooled a little, pour the custard over the oranges. Serve cold with a meringue made of the whites of the eggs.

BUTTER SCOTCH.—One-quarter pound of butter, three pounds of "coffee A" sugar, one-half teaspoonful of cream of tartar, extract of lemon, water enough to dissolve the sugar; boil, without stirring, till it will crack in cold water. Do not put in the lemon till it is done. Pour on to well-buttered pans, making it about a quarter of an inch thick. When cool, score it across with a sharp knife.

THE WEEKLY ANALYST.

WHAT OUR FRIENDS OF THE PRESS SAY ABOUT US.

AN IMPROVEMENT.

The AMERICAN ANALYST now that it comes to us every week, proves a most welcome visitor. We know of no paper we can more honestly recommend to our subscribers who may want more than one journal than we can the above paper. Every week it is full of good reading matter and of such a nature as to make it most interesting.—*Merchants Mail*, March 8.

JAPAN WAX.—Japan wax is obtained from the tree *Rhus succedanea*, which is found in Japan, China, and throughout the East Indies generally. In the Japanese language it is called *haze* or *haze*. The tree commences to bear fruit when five or six years old, and increases its product every year, till at fifty years a single tree will produce 350 pounds of berries, from which 70 pounds of wax can be obtained. The wax is formed in the middle of the berry, between the seed and the skin, like the pulp of a grape. It is extracted by boiling the berries in water and allowing it to cool, when the wax separates out to a solid cake. The specific gravity of this wax is 0.970, and its melting point 131 deg. Fahr. It is largely used either alone or mixed with tallow, by the Chinese in the manufacture of candles. The principal port of export is the city of Osaka, whence in 1876, nearly 2,000,000 pounds of the wax were shipped to London.

HAY FEVER.—Dr. Morell Mackenzie, in his monograph on this complaint and its treatment, says that, among races, the English and American; among classes, the upper and cultivated; and of the sexes, the males, are especially susceptible to hay fever. In the North of Europe it is almost unknown. It is rare in France, Germany, Italy and Spain; whereas in England it is frequent, and in America prevalent. Again, 99 per cent. of its martyrs are of the upper class, while agricultural laborers who are most exposed to the cause of the complaint, are less subject to its attacks. Lastly, the male sex is more liable to it than the female, in the ratio of three to one. He gives its cause—"the entrance into the eyes and air channels of those predisposed to the ailment, of minute particles of vegetable matter from grasses and plants in flower"—and its cure, chiefly cocaine in one form or another, or residence in certain mountain or seashore localities which are free from the disease.

CAUTION AGAINST A GREAT FRAUD.

Many hotels and restaurants, apparently respectable, and charging enough to make a handsome profit upon the eatables furnished at their tables, pretend to furnish to their guests the genuine Lea & Perrins' Worcestershire Sauce. They actually buy a small supply of the genuine article, but when the bottles are empty, refill them with a cheap, badly flavored and often injurious imitation, which will spoil the flavor of any food to which it is applied. This refilling of a bottle bearing the label and trade mark of the genuine sauce with any imitation sauce is using another person's trade mark for the purpose of defrauding the public, and to the pecuniary injury of the original manufacturer. The fact of the bottles having been purchased, and thereby having become the property of the purchaser, does not give the latter any right to use the bottles for any such fraudulent purpose, and the courts have so held. Any restaurant keeper who would be guilty of such mean fraud cannot be trusted as to the genuineness of anything he sells. A man who for the sake of saving a few pennies will impose a fraudulent sauce upon his customers would sell dog meat for lamb, or cat meat for rabbits. But as the only thing such men fear is exposure, this step will next be taken by Messrs. Lea & Perrins. De-

tectives will secure proof, and some fine morning the newspapers will appear with the sensational headline: "So-and-so's fashionable restaurant raided and the proprietor arrested for fraudulently refilling labelled Worcestershire sauce bottles." This would, of course, forever ruin the reputation of such a restaurant. The remedy is no more than deserved, and no more than the public has a right to expect from the manufacturers. Meanwhile let the public demand of restaurant waiters the genuine Lea & Perrins' Worcestershire Sauce. The public taste and demand is so strong for this celebrated sauce that all first-class restaurants feel compelled to supply it, and some of the short-sighted proprietors seek to avoid the trifling expense by the contemptible fraud just described. Let them beware of being caught.

A MILD WINTER'S EFFECT.

Practically, from a Northerner's point of view, our winter of '88-'89 has been no winter at all. Half a dozen days have been cold, but none really severe, and even if we should have a visitation from a stray "blizzard" in the present month of uncertainties, this would go on record as one of our exceptionally mild winter. Experience has thoroughly demonstrated that an almost inevitable consequence of such a season is "a sickly spring." The human system, accustomed to the alternations of the seasons in a temperate climate, needs them for the maintenance of conditions of health. The pure, bracing winds of winter give the vigor that one needs to withstand the enervating zephyrs of spring and early summer. Furthermore, we unconsciously adapt our dietary habits to the expected requirements of the season and are altogether too apt, if not indeed certain, to eat much more rich, highly nutritious, caloric producing and indigestible food in the winter season than is good for us. In some measure that is compelled by the insufficiency of appetizing fresh vegetables and fruits in our ordinary food supply and the tempting abundance of animal food, of the best quality, at this season, both game and domestic. But, whatever excuses we may find for it, the fact remains the same, and the consequences are unavoidable. A protracted and severe winter keeps the balance fairly near to being right, for it gives us a chance to work off the excess of caloric produced by our food, to oxygenate the blood and render less the accumulations of effete matter. No such healthful conditions have marked the winter now just closed, and we enter upon the spring season worse prepared to meet it, physically, than we have been in any one of a great number of years past. If "a green Christmas makes a fat church-yard," what are we to expect as the consequence of a winter that has all been green? In addition to the fruitful source of disease in our own systems another cause of danger that is of vital importance, should not be forgotten. A severely cold winter kills almost all disease germs exposed to it, but the cold of the past season has been no more than sufficient to render them temporarily dormant. At the present moment, beyond question, untold millions of bacteria—seeds of death—slumber in the mud of our city streets, the never cleaned gutters, the crevices of sidewalks, the neglected back-yards and dark cellars, the margins of rural water courses, and the reservoirs of our city water supply systems, waiting only for the first warm breath of spring to awaken them and quicken them into vigorously reproductive and aggressive vitality. Can any reasonable mind doubt the results when these hosts, inimical to life, assail human systems already enfeebled by the extraordinary and baneful influences of a mild winter such as we have had? In view of the existent conditions, it is imperatively necessary for all who have a care for the preservation of their own health, or who are responsible for guardianship of other lives dependent upon their watchful regard, to see to it that the vital organs are cleansed, strengthened and stimulated to resist the encroachments

of disease and that the blood is purified of the effete accumulations it unquestionably contains. The customary resort to "a spring purgative" is by no means sufficient in an emergency such as the present. Reliance upon it is as unwise as would be the action of a householder who should occupy himself with clearing out a drain-pipe while his house was burning. Radical measures to meet the greatest danger are what common sense prescribes and while the purgative is well enough in its way, and is indeed necessary, the procurement of healthful action of the liver, kidneys and stomach bears to it just about the same relative importance that the extinguishment of the fire does to the opening of the clogged drain-pipe. To accomplish the desired result there is no other medicine so promptly, thoroughly and certainly efficacious as Ayer's Sarsaparilla, and neglect of its use—this season above all others—is simply an invitation to disease and death.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the "Handy Binder" for binding the ANALYST, because of the following advantages: It is elegant in appearance, strong, durable and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metallic binding strips (loops) the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

BUSINESS NOTES.

HORSFORD'S ACID PHOSPHATES, AS A RESTORER.

Drs. Buck and Matthews, Springfield, Ill., say: "In cases of nervous prostration, it strengthens by quieting nervous agitation."

AN EXPLANATION.

"What a remarkably neat hand you write." Yes, I always use an Esterbrook Pen.

CLEAN HANDS.

The most convenient thing for the wash-stand we have seen lately is a small rubber toilet brush, not much over an inch long, with rubber bristles, manufactured by C. J. Bailey & Co., of Boston, and sold for twenty-five cents in all drug stores. It removes ink, tar, grease, paint, iron stains, and in fact everything foreign to the color of the skin, simply by using with soap and water. It never becomes foul or carries any contagion, and will not injure the most delicate skin, as is done by the use of pumice stone, bristle brushes, etc. Printers, penmen, typewriters, blacksmiths, machinists, shoemakers, painters, farmers, and all whose hands are stained by their labor, can cleanse them easily, without rupturing or weakening the skin.

MORE FRAUD.

The Cereals Manufacturing Company have been compelled by the numerous imitations of their foods to issue the following caution: Beware of oat foods, under a variety of fancy names, with which the market has recently been flooded, in consequence of the great success of the A. B. C. brand, during the past fourteen years. These imitations are made from the raw groat (hulled oat) crushed, and resemble ours in appearance only. It is claimed, for some of them, that they are partially cooked, whereas the only application of heat is in the process of kiln drying to remove the hull. The A. B. C. oats are not only thus treated, for the same purpose,

but are subsequently twice cooked, first from 2½ to 3 hours, by the direct application of moist steam, and then thoroughly dried by roasting for 1½ to 2 hours with superheated air (desiccated), which removes all traces of moisture and renders them most easy to digest. Also all our other American Breakfast Cereals. This process converts the indigestible starch into digestible sugar, thus gaining 50 per cent. in nutriment, 1 lb. becoming equal to 1½ lb. of the raw cereals above described. This result cannot be obtained by any other method than steam cooking, for which we exclusively hold the patent.

THIRTEEN MILE GUNS.—Two monster Russian guns were sent recently to Sebastopol, says the London Times, for the purpose of being placed in the new iron-clad Sinhope, and although some of the details must be inaccurate, the official description is too interesting to be ignored. They are twelve inch pieces, weighing 50 tons, and throwing projectiles of nearly half a ton. The powder charge is 270 pounds, and the initial velocity 3,000 meters, while the distance of the cannons' ranges is said to be 20 versts, or over 13 miles. As a consequence, the fire of the guns can only be directed by the map, the object fired at being out of sight. Two men, however, suffice for each gun, as they are worked by hydraulic machinery.

ELECTRICITY AND DUST.—M. Soret of Geneva, shows the deposition of dust by electricity in the following manner: He places a platinum cup full of water in a dark chamber, and connects it with one pole of an influence machine, while the other pole is fixed at any convenient distance above the surface of the water. The water is then heated with a Bunsen burner, and its surface strongly illumined by an arc light. As the water boils, the vapor is distinctly visible in the luminous beam; but on setting the machine to work it is re-precipitated on the edges of the cup. By placing the upper pole sufficiently near the surface of the water the whole of the steam disappears, being precipitated as rapidly as it forms, although the water still continues to boil.

Subscriptions \$1 per year. Now is the time to subscribe.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER McGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

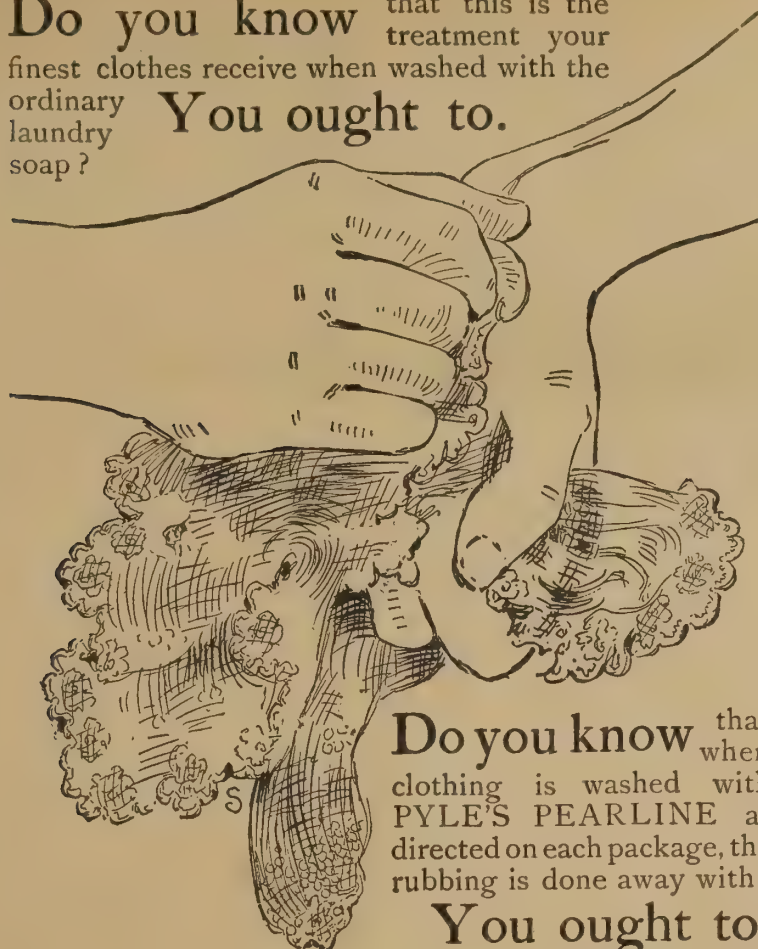
Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

Do you know that this is the
finest clothes receive when washed with the
ordinary laundry soap? **You ought to.**



Do you know that
clothing is washed with
PYLE'S PEARLINE as
directed on each package, the
rubbing is done away with?
You ought to.

The greatest wear on clothing is the constant rubbing in the wash. The hardest work in washing is the rubbing up and down on a board. You must admit that anything which does away with the rubbing, and is withal harmless, saves the wear and tear on the things washed as well as the poor woman who does the work. We claim that PEARLINE is that thing. The many millions of packages sold annually would seem to substantiate our claim.

Beware Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearl-line, or "the same as Pearl-line." IT'S FALSE—they are not, and besides are dangerous. PEARLINE is never peddled, but sold by all good grocers. 137 Manufactured only by JAMES PYLE, New York.

CALIFORNIA

Fine Table
Wines

From our Celebra-
ted Orleans
Vineyard.

Charles Harwin & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD. New York, } Agents.
C. JEVNE & CO., - - Chicago, }

ESTABLISHED 1872.

GELATINE

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

ONE BLOCK FROM THE ELEVATED.

In going to New York to stay a day, a week or month, you want moderate prices and central location. The Sturtevant House, Broadway, cor. 29th St., is convenient to all amusements, and nearly 2,000 cars pass its doors daily.—*Home Journal*.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unequalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for *Dyspepsia, Diabetes, Debility & Children's Food*. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES**, Props., Watertown, N.Y.

A. B. C. Steam Cooked White Oats.
HULLED AND CRUSHED.

A. B. C. WHEAT, BARLEY, AND MAIZE.
A. B. C. Trade Mark.

American
Breakfast
Cereals.

THE CEREALS MFG CO.,

SOLE PATENTEES FOR STEAM COOKED CEREALS.

BE SURE AND GET THE A. B. C. BRAND
SOLD BY ALL GROCERS.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?

GOOD ADVERTISING AGENT WANTED,

Address, ANALYST PUBLISHING CO., 19 Park Place, N. Y.



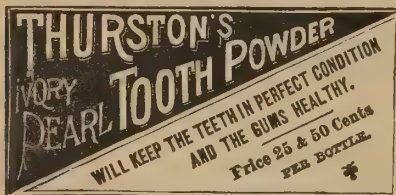
FOR THE THIRD TIME In our history we have been forced to move into larger quarters to keep up with the demand from our New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade. We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the famous Custom-made Plymouth Rock \$3 Pants, first, send 6 cents, for which we will mail you 20 samples self-measurement blanks, and linen tape measure, provided you MENTION THIS PAPER, or if you cannot wait for samples, tell us about the color preferred, with waist, inside leg, and hip measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. Remember, also, that we make to your order, Full Suits, \$13.25, Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES.—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.



MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides. It deserves to stand in the front rank of constructive, and the constructive by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only THREE possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain). **MALTINE** with Phosphates, Iron Quinine, and Strychnia. **MALTINE** with Alternatives. **MALTINE** with Cod Liver Oil. **MALTINE** with Ferrated. **MALTINE** with Hypophosphites. **MALTO-YERBINE**. **MALTINE** with Peptonin. **MALTO-VIBURN**. **MALTINE** with Pepsin and Paeurotine. **MALTINE** with Oscara-Segrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

34 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST

FACIAL BLEMISHES.

The Largest Establishment in the World for their Treatment. Facial Development, Hair and Scalp, Superfluous Hair, Birth Marks, Moles, Warts, Moth, Freckles, Wrinkles, Red Nose, Acne, Pimples, Black Heads, Scars, Pitting, etc., and their treatment. Send 10 cts. for book of 128 pages, treating on 25 skin imperfections, 8th edition revised and illustrated.



Dr. JOHN H. WOODBURY,
210 West 42d St., New York City, N.Y.

Inventor of Facial Appliances, Springs, etc. Six Parlors; three for Ladies. Established 1870.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK. WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS.

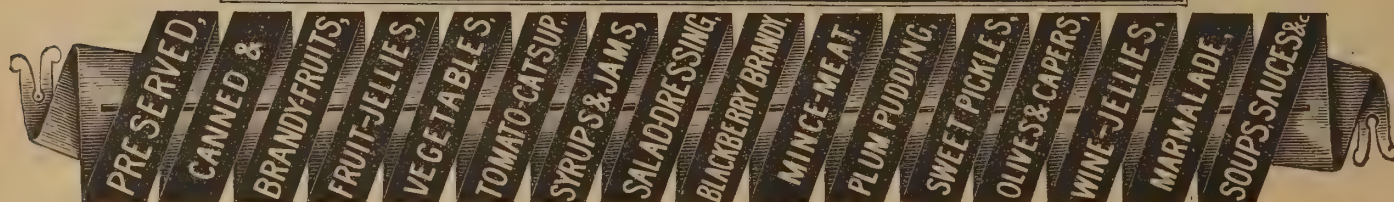
TABLE DELICACIES

GREENWICH ST. NEW YORK

CHOICE OF DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

3 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

73 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBSAND
PRIVATE FAMILIES

BY

Beadleston & Woerz

291 W. 10th St. New York.

Orders by Postal Card
promptly attended to.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	WITH PUBLISHER'S PRICE.	DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		
Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.

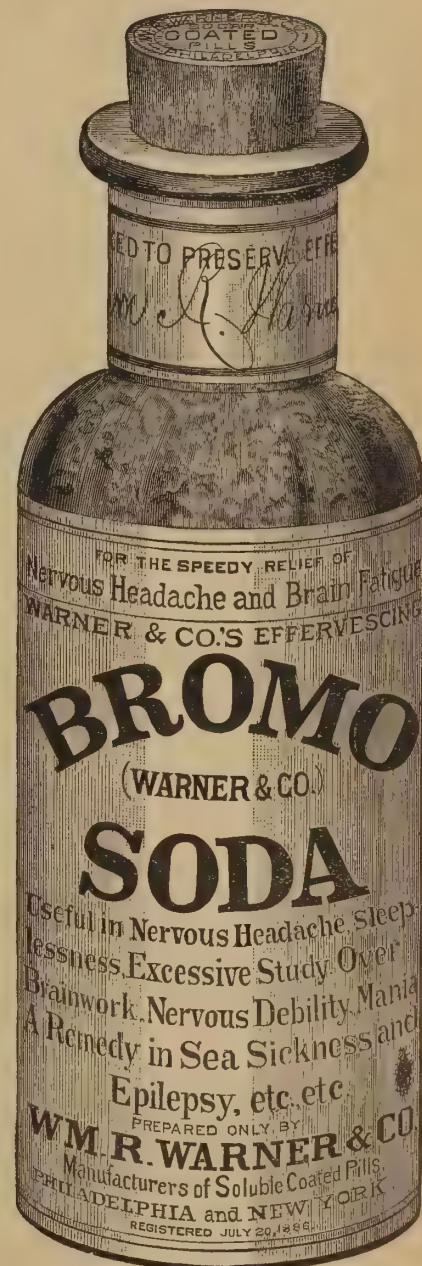
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

A CURE

FOR

Sick and Nervous

HEADACHES.

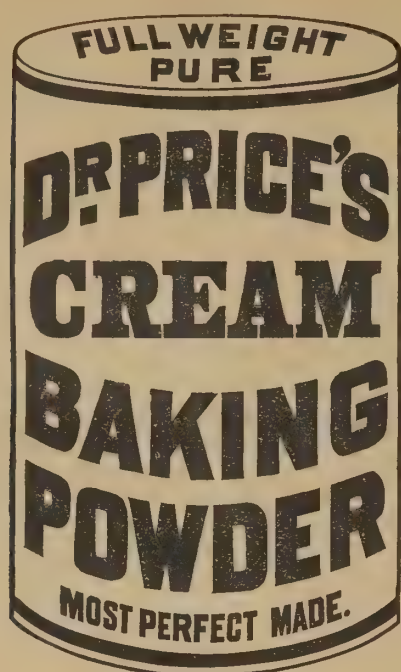


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

**DEAN'S PATENT
ARDENTER MUSTARD.**

BEST IN THE WORLD.

WARRANTED
ABSOLUTELY PURE.



WARRANTED
ABSOLUTELY PURE.

Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

COLDEN'S
ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."
LIQUID
BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D. F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

As I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 12.

NEW YORK, THURSDAY, MARCH 21, 1889.

WHOLE No. 108.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

A Soft Voice.....	136
Book Reviews.....	136
Canned Goods for the Tropics.....	136
Cleanliness.....	136
Correspondence.....	135
Lard vs. Cottonseed.....	
Domestic Dietetics.....	137
Editorials.....	133
Our Next Anniversary; The Half Holiday Folly; The Brooklyn Ice Cream Poisoning; A Valuable New Fab- ric; Poisonous Tin Foil; India Ink; An Answer Re- quested.....	
Feeding the Sea Sick.....	135
Hippophagists.....	136
Ice Cream and Arsenic.....	135
Oleomargarine, How Made.....	134
Popular Fallacies.....	135
The Weekly Analyst.....	136
Woman's Mission.....	137

OUR NEXT ANNIVERSARY.

The programme for the celebration of April 30th, in this city, is completed, and the significance of the event seems, in our opinion, to justify a brief description of it in this column. The inauguration of George Washington, one hundred years ago, on the 30th of next month, was the last great act in what John Fiske rightly calls the critical period of American history—the period between the close of the Revolutionary war and the beginning of the first Administration under the constitution. The New York celebration will be compressed into two days—Monday, April 29th, and Tuesday, the 30th. The central figure in the commemorative exercises will be the President of the United States, who will travel from Philadelphia to the foot of Wall Street, in this city, over the exact route that Washington took. He will leave Philadelphia early on the afternoon of Saturday, April 27, and, reaching Trenton, N. J., will pass under the same arch that Washington passed un-

der in 1789, and Lafayette in 1824. The arch was made from funds contributed by the women of Trenton, and has been preserved in Independence Hall in Philadelphia for a hundred years. President Harrison will give a reception at the New Jersey State capitol, and will spend Sunday in that city. On Monday morning he will proceed to Elizabethport, where he will be received by the New York committee, and will embark on a Government dispatch boat. The journey thence to the foot of Wall Street will be through a fleet of war vessels of this and other nations in the harbor and a fleet of steam yachts, all decked out in holiday bravery; and the harbor forts and the gunboats will make the Staten Island hills quake with their salutes of welcome. When the President has landed he will be escorted by troops from the regular army to the Equitable building, the Governor and the Mayor doing the civic honors of the occasion, where a reception will be held. A thousand invitations will be sent to distinguished men in the professions and in all branches of business to meet the President at this reception. In the evening will take place the grand ball at the Metropolitan Opera House. So much for Monday. Tuesday, however, will be the big day. The first thing will be religious exercises in the historic St. Paul's Church, the President, cabinet, Governors of the States, and other distinguished guests attending. At ten o'clock the literary exercises will take place on the steps of the sub-treasury in Wall Street, the very spot where Washington was inaugurated. Rev. Dr. R. S. Storrs will deliver a prayer. Whittier is expected to send a poem to be read; Chauncey Depew will deliver an address; President Harrison is expected to speak briefly, and Archbishop Corrigan will pronounce the benediction. Then, at about 11.30 A. M., the procession will start up Broadway from Wall Street, turning into Fifth Avenue at Washington Square, and proceeding up Fifth Avenue under two triumphal arches at the ends of the great reviewing stand, which will extend from Twenty-third Street to Twenty-sixth Street, along Madison Square. The procession will be numbered by the tens of thousands, and will be hours in passing the stand. The National Guard and other State militia organizations will fill the city with citizen soldiers, for whom halls have already been engaged as camping grounds. Word has been received that Virginia will send the First Regiment of her State troops, and perhaps the entire militia force of the Commonwealth. Minnesota will send a thousand troops. The entire National Guard of this and probably of the adjoining States will be present, together with the regular army troops, marines, and, it is hoped, the West Point and Annapolis cadets. On Wednesday there will be an industrial parade, and during the month of April the exhibition of colonial portraits and Washington relics will be visible at the Metropolitan Museum of Art.

THE HALF-HOLIDAY FOLLY.

The Chamber of Commerce of this city has taken the backtrack on the subject of the Saturday half-holiday. When the measure was introduced a year ago that body

favored it, but last week it adopted resolutions recommending the repeal of the law. Altogether it was a foolish piece of legislation. The experiment has accomplished nothing that was expected of it, and among employers and employees it is now realized that holiday-making by act of the Legislature will not give more pay for less work, nor an increase of leisure without a decrease of wages. There is a growing disposition to shorten the week's labor in summer where business requirements permit, and perhaps a Saturday holiday law confined to the summer months would not have serious ill effects in this city; but the rural districts, whose influence is supposed to be potent at Albany, can scarcely afford to submit to the serious effect which a summer Saturday holiday law would have on their interests.

THE BROOKLYN ICE CREAM POISONING.

In the case of the poisoning of nearly one hundred people by eating ice cream purchased of Enoch Swain, 1187 Fulton Street, there is only one point deserving of emphasis. This special point has already been referred to in another column, namely, the gross ignorance of this ice cream manufacturer in purchasing an article of coloring with the dangerous nature of which he claimed to be entirely unacquainted. This is made still more apparent by his attempt to impress the authorities with the assertion that he thought he was purchasing cochineal coloring. No blame whatever can be attached to the manufacturers of the carlie red, as carlie red is a regular article of commerce prepared by nearly every wholesale drug house in this city, and used for many different purposes. It was plainly labelled and whoever purchased it could reasonably be supposed to know its nature. It is simply a mixture of aniline red in glycerine and alcohol. Aniline red, as every one knows, contains arsenic, but not in such quantities that would, when used in the minute quantity claimed by Mr. Swain, have produced the poisonous effects. Having thus found Swain to have made several misstatements, very little dependence can be placed on his story, and from all the circumstances it seems just as likely that he used some other pigment than the carlie red. It might be as well to pass a law absolutely prohibiting the use of any coloring matter in food products unless such matter is positively known to be free from poison.

A VALUABLE NEW FABRIC.

A firm of French manufacturers have brought out a new textile fabric, the advent of which is deserving of conspicuous mention and is of much popular interest. It is called "ramie linen," and is made, as its name indicates, from the fibre of the ramie plant, otherwise known as the "silk plant" and "China silk." The fact has long been known that this was, in every way, one of the most desirable of vegetable fibres, but there were peculiar difficulties in utilizing it—owing to its length, great strength and glassy smoothness—that have only recently been thoroughly overcome by certain very ingen-

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

ious mechanical processes. It possesses all the softness and lustre of silk, but is even smoother and is stronger than either silk or linen. When woven into sheeting it has fully double the strength of linen, and, instead of roughening and weakening in wear through the throwing off of portions of its fibres in the form of lint and floss, grows smoother, more lustrous and seemingly closer in texture. This absence of a tendency to disintegration and the remarkable purity of its fibre constitute for it exceptional value for the use of surgeons who find it better than any other material for bandages and dressings, particularly in antiseptic treatment. It is also found that bed-linen of ramie fibre absorbs no uncleanly emanations from the human body as linen and cotton do, and is much more easily thoroughly cleansed than is either. It would hardly have been too much to say of it that it seems to have a property of repelling dirt of all kinds. Severe tests have demonstrated that the ramie linen is, by comparison with those made from flax or hemp, practically indestructible, or, at least, that its durability is such that an amount of washing that reduces them to shreds and rags leaves it sound, whole, smooth and apparently new. The manufacture of this new fibre now extends to sheeting, towels, table linen, guipure curtains, and it is hoped will soon be extended so as to supply us with a material for shirts that will better resist the vindictively ferocious energy of the laundress than anything we now have.

POISONOUS TINFOIL.

A great deal of the material which is erroneously called tinfoil is used to wrap articles of human food, including Neufchatel cheese, chewing gum, licorice pellets, fig paste, various kinds of candy, chocolate and nearly all kinds of chewing tobacco. As the most of this tinfoil is largely composed of lead, it is very dangerous to health, and its use for wrapping food has been legally forbidden in France. It should be prohibited here. Nothing that is to be taken into the mouth should be allowed to come in contact with lead. An analysis of some of these "tinfoils" might astonish the public and largely curtail the sales of cheap chewing gums, chocolate and licorice pellets.

INDIA INK.

The process of manufacturing India ink has been a secret with the Chinese for many centuries. An investigation made by some English chemists has shown that by the action of sulphuric acid on camphor a pigment identical with India ink is obtained. Camphor is placed in contact with strong sulphuric acid for twenty-four hours resulting in a reddish gelatinous

mass, which when heated gives off sulphurous acid and turns intensely black. The residue of camphor and acid being driven off by heat, the pigment remains. This pigment appears to be soluble in water.

AN ANSWER REQUESTED.

The *Butcher's Record*, of Allegheny, Pa., has on several occasions favored us with more or less—usually less—pertinent queries about dressed beef and lard. We now have a little conundrum for that astute journal. The butchers of Pittsburgh and Allegheny are in the habit of using a preparation called "Saviture." It is recommended as a sure preservative of meat, and to "remove all smell, taint and appearance of decomposition from spoiled meat." It is largely composed of boracic acid and phosphate of soda, and has been long since condemned by health authorities as poisonous. Will the *Butcher's Record* please inform us how much rotten meat the Pittsburgh butchers manage to rid themselves of by using this delectable "Saviture."

OLEOMARGARINE.

WHAT IT IS AND HOW IT IS MADE.

Oleomargarine, strictly speaking, is butter artificially lengthened. If we were to ask a dairy farmer which of his cows' milk he can make the most butter from, he would point to the lean cow. The fat of the lean cow goes into her milk; consequently, the milk of such a cow makes the most butter. Just what nature does here science has done in making oleomargarine. Pure, clean, animal fats, and only such can be used, carefully prepared with a vegetable oil such as cotton-seed, the best butter, creams and milk, with salt and coloring matter, constitute oleomargarine. These various ingredients are purchasable in the open market, being all articles of regular commerce. Oleo oil is made by the large slaughter-houses, and gives them an outlet for the immense quantity of fat they constantly obtain from the cattle slaughtered for beef. The caul and suet fats are removed from the freshly slaughtered beeves and placed in tanks filled with water at 75 deg. to 85 deg. Fahr., where they remain from two to three hours before being transferred to other tanks containing ice water. By this procedure the fats are gradually deprived of their animal heat and the danger of their becoming sour is avoided, as would happen if the mass of fat was suddenly chilled by being placed directly in ice water. The caul, long or slaughter fat, is kept separate from the suet fat, which yields an inferior grade of oil. None but fresh, sweet fats from healthy animals can be used, as any other would give the whole batch a bad taste and unpleasant odor. A steer will yield on an average 65 pounds of caul and suet fats, from which are obtained 28 pounds (43 per cent.) oleo oil, 21 pounds (32 per cent.) oleo stearine, and 12 pounds (20 per cent.) high-grade tallow. The chilled fats having been thoroughly washed to remove any blood that may be present, are then sent to the rendering tanks. These are generally in a separate building from the slaughter house. Fat from cattle slaughtered late in the afternoon is generally kept in the ice-water tanks over night before being rendered; thus no fat is more than twelve or fourteen hours on hand, and the great majority less than four hours, before it is rendered. The fat is fed into choppers or hashers revolving at a high rate of speed, from which it issues through fine sieves directly into the rendering tank. This is a large steam-jacketed upright kettle of 2,000 to 5,000 pounds capacity, provided with revolving blades driven by suitable machinery. Steam being turned on in the jacket, the hashed fat is fed continuously into the tank and kept in motion by the stirrer. When the tank is full and the contents thoroughly melted, the temperature being 120 deg. to 150 deg. Fahr., the stirrer is removed and the water and scrap

allowed to settle. The clear fat is drawn off from the top and run into the graining or seeding cars of 400 to 600 pounds capacity, where it is allowed to chill. The temperature of the room in which these cars are stored is maintained at 85 deg. to 95 deg. Fahr. The fat in chilling naturally solidifies gradually; the hardest variety, the stearine, being the first to form a thin crust on top and sides. In from one to three days the whole contents of the car will be in a semi-solid condition. This fat is free from all "greasy" taste. The car containing the semi-solid fat is taken to the press room, which is maintained at a temperature somewhat below that of the seeding room, viz., 70 deg. to 80 deg. Fahr., where it is dipped out by a ladle and poured on a stout linen cloth, placed in a suitable depression on a wooden revolving table, and after the cloth is properly folded, so as to make a rough bag, it is transferred to the metal plate of a screw press. A dozen of these cloth bags cover the surface of a plate. When one plate is covered another one is let down and filled. When the press is filled, pressure is gradually applied by means of an endless chain revolving a screw; the expressed "oil" constitutes the "oleo oil." The liquid fat is conducted, still hot, from the press into barrels or cars, where it is allowed to cool. The finished product is nearly colorless, tasteless, and at ordinary temperatures is a soft, granular fat, rather than an oil. The hard fat remaining in the filter bag is removed from the press and forms the beef or oleo stearine, which is used either for making "refined lard," by the addition of cotton-seed oil, or sold to the soap and candle makers. The manufacture of "neutral lard" is conducted by essentially the same machinery and at about the same temperature employed in the manufacture of "oleo oil." Only the leaf fat of freshly-slaughtered hogs is used. A hog yields from 5 to 15 pounds of leaf lard, averaging 9 pounds, 100 pounds of which yields 90 pounds "neutral." The "neutral," however, is not pressed to extract the stearine, but is run directly from the rendering tank into a very strong iced brine, where it remains for about twenty-four hours, when it is removed and placed on shelves to drain. The "neutral" is a white, slightly granular, tasteless, solid fat. The skimmings and scrap from the lard-rendering kettles are strained, and the fat, about 2 per cent. of the original charge, obtained from them added to the steam-rendered product. Several factories, however, use the ordinary steam and kettle-rendered lards, and not "neutral." Great cleanliness is observed throughout both processes, and there is very little manual handling, machinery being used as much as possible, and the fat carefully guarded from any source of contamination. The by-products of oleo oil and neutral, viz., stearine, tallow and lard, are standard merchantable articles. Only fresh and sweet fats are used, and tanks, etc., are thoroughly cleaned before use, as a small amount of fat, if allowed to adhere to the apparatus, is liable to decompose in such a way as to spoil the succeeding batch of materials worked up. Though there may be slight differences in the details, the range of temperature, size of tanks, etc., pursued by the different manufacturers, the general procedure is as above described, the object being to obtain a neutral fat, melting at butter temperature. The cotton-seed oil used is prepared in several ways, and refined to make it of a light straw color and bland taste. The butter used is always selected for its high flavor and taste, and is generally obtained direct from the creamery. Owing to the granular character of oleo oil it becomes necessary to add some softer and smoother fat; and neutral lard and cotton-seed, or other similar vegetable oil, are added for the purpose of making the mixture more closely approach the consistence of butter. The proportions in which these ingredients are used vary with the seasons of the year, the grade desired, and the formulas of the manufacturers. The charge of milk or cream, however, is the same for all grades manufactured by any particular factory, and varies from 10 to 20 per cent. The milk or cream is allowed to become slightly sour. The churn used is steam jacketed, of 1,200 to

2,500 pounds capacity, and the whole operation of churning is conducted at a temperature of 85 deg. to 105 deg. Fahr., insuring the melting and thorough mixture of all the solid fats used, thus differing from ordinary creamery practice. The oleo oil and neutral lard are melted in separate kettles at a temperature of about 90 deg. Fahr. The charge of milk or cream is first run in, and the paddles kept in motion until the butter begins to form. Then the charge of melted oleo oil is added and stirred. When this is well incorporated the neutral lard is run in, and finally the annatto, to give the desired butter color. The butter is added either directly into the churn, being first melted, or it is worked into the oleomargarine after it is taken from the churn. The temperature is carefully regulated, being about 85 deg. Fahr. at the beginning and gradually increasing to 105 deg. Fahr. at the end, when the whole charge has the appearance of a yellowish, creamy fluid. From twenty to ninety minutes are occupied in the churning. The whole melted charge, after it has been sufficiently churned to thoroughly incorporate all the ingredients, is run either directly into tanks containing chopped ice and constantly stirred, or is met by a stream of ice water as it issues from the churn. The object is to give the melted mass a fine grain by this sudden cooling. The chilled mass is removed from the tanks and placed on wooden trays to drain. Here the salt is added and allowed to work itself in, which generally takes from twelve to twenty-four hours. The salted mass is then thoroughly worked by mechanical rollers, to remove the buttermilk and water, following the general practice of creameries in this and subsequent operations of packing, etc. Oleomargarine is placed on the market either "solid packed" or in prints or rolls. Four grades are generally made, known as "dairy" and "extra dairy oleomargarine," "creamery" and "extra creamery butterine," the last two containing from 10 to 25 per cent. of the best creamery butter. In the lower grades, from 25 to 60 per cent. of neutral lard, from 20 to 50 per cent. of oleo oil, from 5 to 25 per cent. of vegetable oils, and in some cases from 2 to 10 per cent. of butter, with 10 to 20 per cent. of milk or cream, are the proportions used. Some factories employ no vegetable oils in their oleomargarine, preferring to use a larger proportion of neutral lard with a small amount of butter to obtain the desired butter consistency. In the higher grades the proportions of oleo oil are reduced, the vegetable oils are discarded, and creamery butter is used to make up the charge. A very natural question arises—that is as to the cleanliness, wholesomeness, and relative cost of oleomargarine. As to the first, the best answer that can be made is that in the large oleomargarine factories the employees who are constantly engaged in making it, and who know all about the quality of the materials from which it is made, buy it in preference to butter for use on their own tables. As to its wholesomeness, enough has been said as to its only slight difference from natural butter, and therefore there can be no doubt as to its healthfulness; and even, if any doubt existed, the statement, endorsed by every scientist in the country, that it is just as pure and healthy as good butter, would settle that. And finally as to its relative cost, it helps in two ways. Being cheaper to manufacture, it can be sold at a lower price; and in addition, being a formidable rival, by competition, it keeps down the price of butter. This, then, is the much-abused article, which is only kept out of the consumers' reach by unconstitutional class legislation.

POPULAR FALLACIES.

SOME OF THE MISTAKEN NOTIONS WHICH LEAD TO HARM.

It is a mistake to labor when you are not in a fit condition to do so. To think the more a person eats the healthier and stronger he will become. To go to bed late at night and rise at daybreak, and imagine that every

hour taken from sleep is an hour gained. To imagine that if a little work or exercise is good, violent or prolonged exercise is better. To conclude that the smallest room in the house is large enough to sleep in. To eat as if you had only a minute to finish the meal in, or to eat without an appetite, or continue after it has been satisfied, merely to gratify the taste. To believe that children can do as much work as grown people, and that the more hours they study the more they learn. To imagine that whatever remedy causes one to feel immediately better (as alcoholic stimulants) is good for the system without regard to the after effects. To take off proper clothing out of season because you have become heated. To sleep exposed to a direct draught in any season. To think any nostrum or patent medicine is a specific for all diseases the flesh is heir to.

CORRESPONDENCE.

LARD vs. COTTON-SEED.

NEW YORK, March 14, 1889.

Editors Analyst: Will you please inform me what the Cotton-seed Oil Product Company's cotton-seed lard is—whether it is wholesome and as cheap as they advertise?
MIRANDA.

We publish this inquiry and reply to it because the question is similar to many others received by us. Cotton-seed lard is a misnomer and calculated to mislead. Lard is a French word, meaning bacon, and has been adopted into the English language, to designate tried out hogs' fat. The company which manufactures this cotton-seed "lard" has so mendaciously attacked all hog products that the least they can do, in our opinion, is to leave the poor hog the name of one of its chief derivatives. This cotton-seed lard, as nearly as we can judge without a special analysis, is made of cotton-seed oil and stearine, raised to a high degree of heat and suddenly chilled. As it takes about three pounds of this stuff to answer the same purpose as two and a half pounds of any good genuine lard, and, as it is sold at a higher price, it is certainly not cheaper. So much for that part of our correspondent's inquiry. For many foods it cannot be employed, because the peculiar smell of cotton-seed oil in such undue proportions and the taste of stearine are not considered any recommendation. It commands no sale in the exchanges, but is simply pushed by extensive advertising through retail grocers.

FEEDING THE SEA SICK.

THE EXTENSIVE LIST COMPRISED IN AN OCEAN STEAMER'S STORES.

Some notion of the consumption of food on board our floating hotels may be interesting to some of our readers, and in their interest we have gathered together the following notes: For a single passage to the westward, the *Etruria*, with 547 cabin passengers and a crew of 287 persons, had, when leaving Liverpool on the 27th August last, the following quantities of provisions: 12,550 lbs. fresh beef, 760 lbs. corned beef, 5,320 lbs. mutton, 850 lbs. lamb, 350 lbs. veal, 350 lbs. pork, 2,000 lbs. fresh fish, 600 fowls, 300 chickens, 100 ducks, 50 geese, 80 turkeys, 200 brace grouse, 15 tons potatoes, 30 hampers of vegetables, 220 quarts ice cream, 1,000 quarts milk, and 11,500 eggs. In groceries alone there were over two hundred different articles, including, for the round voyage of twenty-two days, 650 lbs. tea, 1,200 lbs. coffee, 1,600 lbs. white sugar, 2,800 lbs. moist sugar, 750 lbs. pulverized sugar, 1,500 lbs. cheese, 2,000 lbs. butter, 3,500 lbs. ham, and 1,000 lbs. bacon. The foregoing seem enormous quantities, but very little was left upon the ship's arrival in port. The quantities of wines, spirits, beer, etc., put on board for consumption on the round voyage comprise

1,100 bottles of champagne, 850 bottles of claret, 6,000 bottles of ale, 2,500 bottles of porter, 4,500 bottles of mineral waters, 650 bottles of various spirits. Crockery is broken very extensively, being at the rate of 990 plates, 280 cups, 438 saucers, 1,213 tumblers, 200 wine glasses, 27 decanters and 63 water bottles in a single voyage. As regards the consumption on board the Cunard fleet for one year, a steward says: "We consume no less than 4,656 sheep, 1,800 lambs and 2,474 oxen—an array of flocks and herds surpassing in extent the possessions of many a pastoral patriarch of ancient times. This is equivalent to 2,091,754 lbs. of meat. We consume 831,603 eggs, and we drink 21,000 pounds of tea in the year, and 71,770 lbs. of coffee, sweetened by 296,000 pounds of sugar; whilst the following articles also figured largely: 1½ tons mustard, 1¾ tons pepper, 7,216 bottles of pickles, 8,000 tins sardines, 30 tons salt cod and ling, 4,192 four-pound jars jams, 15 tons marmalade, 22 tons raisins, currants and figs, 18 tons split peas, 15 tons pearl barley, 17 tons rice, 34 tons oatmeal, 460 tons flour, 23 tons biscuits, 33 tons salt, 48,902 loaves bread (8 lbs. each), 53 tons ham, 20 tons bacon, 15 tons cheese, 930 tons potatoes, 24,075 fowls, 4,230 ducks, 2,200 turkeys, 2,200 geese, 31,212 tablets Pears' soap, 3,484 lbs. Windsor soap, 10 tons yellow soap. Our passengers annually drink and smoke to the following extent: 8,030 bottles and 17,613 half-bottles of champagne, 13,941 bottles and 7,310 half-bottles of claret, 9,200 bottles of other wines, 439,344 bottles of ale and porter, 174,921 bottles of mineral waters, 34,400 bottles of spirits, 34,360 lbs. tobacco, 63,340 cigars, 56,875 cigarettes. The heaviest item in our annual consumption is naturally coal, of which we burn 356,764 tons, or almost 1,000 tons for every day in the year. This quantity of coal, if built as a wall four feet high and one foot thick, would reach from Land's End to John o'Groat's House."

ICE CREAM AND ARSENIC.

BEWARE OF DANGEROUS COLORING IN ICE CREAM.

Seventy-five persons have recently been made seriously sick by eating ice cream which had been flavored with a compound containing arsenic. The cream was made by E. C. Swain, of No. 1187 Fulton Street, Brooklyn. The case first came to the attention of the Health Department through the sickness of members of a family, who live over Swain's store. The physician called in to attend them suspected the strawberry cream they had eaten, and a sample was forwarded to the Health Department. Chemist Kent found traces of arsenic in it, and investigation showed that it had been colored with carlie red, obtained from a drug firm in New York. When this was analyzed it was found to contain arsenic. It is an aniline coloring matter. Further enquiry shows that many persons have suffered from eating strawberry cream, and a general investigation is in progress regarding the flavoring matters used. Mr. Swain supposed he was getting cochineal when he purchased the coloring matter. He destroyed the ice cream flavored with the poison as soon as he discovered its nature. It is only the old story of food manufacturers using materials, the composition of which they know nothing about. In all the cheaper aniline reds arsenic is employed to oxidize the color. When the arsenic has been thoroughly washed out as it is in the higher priced colors, they are safe to use. But the question still remains, by what right does a confectioner use any color or material without positively knowing that it is safe.

THE MICROBE OF MALARIA.—The evidence is accumulating that the microbe of malaria which was described by Laveran, is the cause of intermittent fever. At a recent meeting of the French Academy of Sciences, Professor Bouchard expressed the opinion that Laveran's claim had been substantiated.

REVIEWS OF NEW BOOKS.

THE PSYCHIC LIFE OF MICRO-ORGANISMS.—A Study in Experimental Psychology. By Alfred Binet. Translated from the French by Thomas McCormack. Chicago, 1889. Open Court Publishing Co.

M. Alfred Binet, the collaborator of Ribot and Féré, and one of the most eminent representatives of the French School of Psychology, has presented in the above work the most important results of recent investigations into the world of micro-organisms. The subject is a branch of comparative psychology little known, as the data of this department of natural science lie scattered for the most part in isolated reports and publications, and no attempt has hitherto been made to collate and present them in a systematized form. The cuts, eighteen in number, are illustrative of the movements, nutrition, digestion, nuclear phenomena, and fecundation of proto-organisms. The most interesting chapters are those on fecundation, which demonstrate the same instincts and vital powers to exist in spermatozooids as are found in animals of higher organization. M. Binet's researches and conclusions show, "that psychological phenomena begin among the very lowest classes of beings. They are met with in every form of life from the simplest cell to the most complicated organism." The author contests the theory of the distinguished English scientist, Prof. George F. Romanes, who assigns the first appearance of the various psychical and mental faculties to different stages or periods in the scale of zoological development. To M. Binet there is an aggregate of properties which exclusively pertain to living matter, the existence of which is seen in the lowest forms of life as well as in the highest.

THE WEEKLY ANALYST.

WHAT OUR FRIENDS OF THE PRESS SAY ABOUT US.

An Acquisition.

The AMERICAN ANALYST, a recent acquisition to our exchange list, is an excellent weekly journal, devoted to the subject of pure food, exposure of adulterations of food, and the discussion of economic questions of every day importance. It gives a valuable list of household and cooking recipes each week. The price is very low, only \$1 a year.—*Throckmorton (Texas) Times.*

An Advantageous Change.

The AMERICAN ANALYST celebrated its fifth birthday recently by becoming a weekly instead of a semi-monthly publication. The change is much to the advantage of its patrons, both readers and advertisers, especially as the price of subscription remains the same as before. We are pleased to learn that this new departure is meeting with gratifying recognition.—*Commercial Union, Chicago.*

A SOFT VOICE.

THE CROWNING CHARM OF FEMININE BEAUTY.

We agree with that old poet who said that a low, soft voice was an excellent thing in woman. Indeed, we feel inclined to go much further than he has on the subject, and call it one of her crowning charms. No matter what other attractions she may have; she may be as fair as the Trojan Helen, and as learned as the famous Hypatia of ancient times; she may have all the accomplishments considered requisite at the present day, and every advantage that wealth may procure, and yet if she lack a low, sweet voice she can never be really fascinating. How often the spell of beauty is broken by coarse, loud talking! How often you are irresistibly drawn to a plain, unassuming woman, whose soft,

silvery tones render her positively attractive. Besides, we fancy we can judge of the character by the voice; the bland, smooth, fawning tone seems to us to betoken deceit and hypocrisy, as invariably as the musical, subdued voice indicates a genuine refinement. In the social circle how pleasant it is to hear a woman talk in that low key which always characterizes the true lady! In the sanctuary of home how such a voice soothes the fretful temper and cheers the weary husband! How sweetly such cadences float through the sick chamber, and around the dying bed; with what solemn melody do they breathe a prayer for a departing soul!

HIPPOPHAGISTS.

THE GROWING USE OF HORSEFLESH IN GREAT BRITAIN.

Horseflesh, it would seem, is much more extensively sold in England than the general public is aware of. A bill has been introduced into Parliament providing for absolute protection of the people from all fraudulent traders in the article. In every shop or stall where the meat is found for sale, the fact must be indicated by a painted sign, some four inches in length, indicating the fact. It is further provided that every purchaser, who has bought, without asking for horseflesh, shall be supplied with a label, on which shall be printed in legible letters, not less than an inch in length, the word "Horseflesh." Any infraction of the law is to be punished with a fine which may amount to \$100. Power is given to Justices to grant search warrants for suspected places; and health officers are authorized to make suitable inspections of meat when occasion calls for it. The flesh of asses and mules comes under the heading of "horseflesh." How is it in America? How is it in these United States? How is it in New York and Brooklyn? Possibly inquiry is pertinent. Thanks, however, to this being an agricultural country where beef is plentiful and cheap, and to our laboring classes, earning larger wages than those in Europe, we have no need of using horseflesh. But, another pertinent enquiry is suggested, the horse being a clean animal, much more so than the hog or chicken, what possible harm can there be in horseflesh?

CANNED GOODS FOR THE TROPICS.

THE EXPORT OF NORTHERN DELICACIES ENCASED IN TIN.

Progress in manufacturing has greatly increased the physical comfort of the tropical resident. No longer is he dependent for subsistence on the flesh, fish or fowl of the southern land. Though far on the other side of the equator, northern products, animal or vegetable, are within his reach; at the worst, with a slightly "tinny" flavor. There is a far greater quantity of fish sent to the tropics than any other class of canned goods. Within the past year very nearly half a million dollars worth has been exported to tropical lands, and this does not take into consideration those goods which were carried to Africa, etc., via England. Salmon is the popular variety; the consumption of other fish is small in proportion. It is caught in the Columbia River, and in other streams of British Columbia and Washington Territory, and canned and labelled on the spot. By far the greater part is carried to New York by rail, but good sized shipments go across the Pacific to Australia and Southern Asia, and British vessels take it around the Horn to England, whence a portion of it finds its way to Africa. Lobsters are dear to the man in the South and reach him by way of New York, after being caught on the coasts of New Brunswick, Nova Scotia and the adjacent provinces. The catch diminishing recently, the export has of late fallen off. Shrimps, another export delicacy, are caught in the Gulf of Mexico, largely on the coast of Mississippi. Instead

of being shipped directly from New Orleans to South America or the West Indies, they are sent via New York, whence they are dispatched southward. Oysters, which are sent down in goodly numbers, are packed and labeled in Baltimore, but they are seldom sent from there, as a general rule passing through New York. Thus New York becomes, from its great shipping facilities, the port of distribution and out-sending for the tropical export trade. Nowhere else is tonnage available, nor do lines of vessels run; nowhere else is there a surety of transportation. The export market is widening rapidly, and especially in the canned and preserved goods line, as is shown by the constant in-pouring and success of new brands upon the market. Besides fish there is a growing demand for canned fruits and vegetables, as peaches, pears, cherries, tomatoes (in a marked degree), corn and peas. This special branch, as well as that of condensed milk, of which large tropical shipments are being made, is yet in its infancy, but it shows promise of great expansion.

CLEANLINESS.

HOW TO GLORIFY THE SENSE OF LIVING.

An old physician, being once appealed to for some general, comprehensive rule for the preservation of good health, replied: "Keep clean." Cleanliness, from a medical point of view, generally means the absence of noxious germs. The laity generally comprehend in the term freedom from foreign substances, while the psychologist and moralist have reference to the purity of the mind and the soul. All these combined would form the first principle of good health. Freedom from all filth with reference to the body and its surroundings, freedom from contamination of mind and soul, would make the individual not only free from material pollutions, but would inspire him with a sense of cleanliness, a feeling of purity that would cleanse life and glorify the consciousness of living. There is a meaning in that word "clean" that penetrates beyond things seen and touches the mental and spiritual nature of humanity. Cleanliness in a material sense may not abhor dissipations and debauches which oppress life with a sense of impurity, vitiating the sources of health and impairing its enjoyment. "Keep clean" is an admonition carrying with it an inspiration which not only invigorates life, but makes it enjoyable and beautiful. Cleanliness brings not only comfort and health, but it adorns living, gives existence a charm, imparts consciousness of life, real enjoyment, thought, and feeling of existence, the purpose and sanctity of living. There is a world of meaning in the two words "keep clean." The physician, the psychologist, and the moralist united in that one advice would give to humanity a law of health, the observance of which would not only purify physical existence, but would inspire a consciousness of the enjoyments of life and animate it with its hopes, purposes, and destiny.—*Sanitary News*

LATENT COLOR.—In a recent communication to the Paris Academy of Sciences, M. G. Govi has brought forward some interesting facts as to the true colors of bodies. In general, if any substance is illumined by monochromatic light only, it will appear black, except when the color of the light is the same as that naturally transmitted or diffused by the material in question. Thus carmine is black when viewed by either green or blue light, ultramarine is black in all but blue light and similarly with most other colors. Reasoning from this, it would naturally be concluded that biniodide of mercury and red lead would appear black, when seen by the sodium light; which is almost a pure monochrome, whilst M. Govi's experiments show that in place of darkening, their color becomes a brilliant yellow, losing all trace of its initial red. Again, if biniodide of mercury and vermillion, which in ordinary sunlight appear nearly identical, are seen in the sodium light, the biniodide becomes a pale yellow, whilst the vermillion appears brown. M. Govi attributes the above to the fact that the sodium rays are wanting in sunlight and thus with it the true colors of these bodies do not appear.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

March.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, veal.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish, trout.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress.

FRUIT.—Apples, bananas, oranges.

PRACTICAL RECIPES.

SCOTCH BARLEY BROTH.—Throw three-quarters of a pound of Scotch barley into some clean water; when thoroughly cleansed, place it with a knuckle of veal in a stewpan, cover it with cold water, let it slowly reach a boil, keep it skimmed, add seven onions, and simmer for two hours; skim again, and add two heads of celery and two turnips cut in slices, or any shape it pleases the cook; add as much salt as required to make it palatable, and let it stew for an hour and a half—it must be well skimmed before the broth is dished; the meat must be previously removed and the broth alone sent to table. If it is intended to send the veal to table with it, dress it as follows: Take two pints of the broth and put it into a stewpan over a clear fire, add two tablespoonfuls of flour to the broth, and keep the broth stirring as you shake it in until it boils; then add a little cayenne pepper, two tablespoonfuls of port, boil for two minutes, strain it over the veal and send to table.

SCOLLOPED EGGS.—Boil eight eggs until they are hard; let them get quite cold, but do not put them in water to cool them; take them out of the shells and slice them; butter a baking dish, and sprinkle cracker crumbs over the bottom; put on this a layer of egg, and over it sprinkle pepper, salt, lumps of butter, and a few tablespoonfuls of cream; add another layer of crumbs, then of the eggs and seasonings till all are used up. Over all sprinkle cracker crumbs and a little grated cheese. Bake until it is a light brown, and serve at once.

CHEESE FONDU.—One pint sweet cream, one cupful grated cheese, three eggs. Beat the whites and yolks of the eggs separately; mix the cheese well with the cream and beat it slowly into the yolks; season with salt, cayenne and black peppers, and a tablespoonful of melted butter; lastly add the well-beaten whites, and bake in a rather slow oven for just twenty minutes, being careful not to open the oven door too soon, as the fondue will fall. Serve at once.

MOCK QUAIL.—Cut some tender veal cutlets into very thin slices about four inches square. Take a half pint of oysters, drain and just scald them over the fire; have ready two sweet breads, boiled and blanched; chop these up with the oysters; add a cup of cream, pepper, salt, mace and two tablespoonfuls melted butter; thicken with cracker crumbs till you can mould the mixture with your hands. Take the squares of veal, spread a thick layer of the mixture on each, and roll them up together with thread; stick two pieces of macaroni in each roll to look like legs, lay on a greased paper, and bake in a good oven. When done cut the threads and serve.

LEMON JELLY CAKE.—One and one-half cupfuls sugar, half cupful butter beat to a cream, three eggs well beaten, half cupful milk, two and a half cupfuls flour, two teaspoonfuls Horsford's baking powder. Bake in layers.

WOMAN'S MISSION.

WHAT SHE CAN DO—AND WHAT SHE OUGHT NOT TO DO.

As wife and mother, woman can make the fortune and happiness of her husband and children; and if she did nothing else, surely this would be sufficient destiny. By her thrift, prudence, and tact she can secure to her partner and to herself a competence in old age, no matter how small their beginning or how adverse a fate may be theirs. By her cheerfulness she can restore her husband's spirit, shaken by the anxiety of business. By her tender care she can often restore him to health if disease has overtaken his powers. By her counsel and love she can win him from bad company, if temptation in an evil hour has led him astray. By her example, her precepts, and her sex's insight into character, she can mould her children, however adverse their dispositions, into noble men and women. And, by leading in all things a true and beautiful life, she can refine, elevate and spiritualize all who come within reach; so that, with others of her sex emulating and assisting her, she can do more to regenerate the world than all the statesmen or reformers that ever legislated. She can do much, alas! perhaps more, to degrade man if she chooses to do it. Who can estimate the evils that women has the power to do? As a wife, she can ruin herself by extravagance, folly, or want of affection. She can make a demon or an outcast of a man who might otherwise become a good member of society. She can bring bickering, strife, and discord into what has been a happy home. She can change the innocent babes into vile men and even into vile women. She can lower the moral tone of society itself, and thus pollute legislation at the spring-head. She can, in fine, become an instrument of evil instead of an angel of good. Instead of making flowers of truth, purity, beauty, and spirituality spring up in her footsteps, till the earth smiles with a loveliness that is almost celestial, she can transform it into a black and arid desert, covered with the scorn of all evil passion, and swept by the bitter blast of everlasting death. This is what woman can do for the wrong as well as for the right. Is her mission a little one? Has she no worthy work, as has become the cry of late? Man may have a harder task to perform, a rougher road to travel; but he has none loftier or more influential than woman's.

BECOMING EXTINCT.—The alligator of the South, like the buffalo of the West, is likely soon to become extinct. The slaughter of the alligator for its hide, like the slaughter of buffaloes for their hides, has been so great that it will be only a few years before the lonely lagoon of Florida will have lost its last survivor.

ARTIFICIAL EMERALDS.—At a recent session of the French Academy of Sciences, Mr. Daubree, in behalf of Messrs. Hautefeuille and Perry, presented an interesting note on the production of emeralds. These learned chemists have succeeded in producing very beautiful crystals of emeralds by fusing silica, alumina and glucina (with traces of oxide of chromium) with acid molybdate of lithia. The materials were heated to a temperature of from 600 to 700 deg. for fifteen days. There were obtained, fifteen grams of small crystals about a millimeter in diameter, having all the mineralogical and physical characters of the natural emerald. The longer the operation is continued, the larger the crystals become.

THE NATION'S WARDS.—The Indian reservations in 1886 in the United States amounted to 212,466 square miles, all that is left to the race of 3,250,000 square miles, once all their own. The total Indian population of the United States is 247,761. Estimated number of Indians in Alaska is 30,000. The Indian agencies are 61 in number. Number of Indian church members in the United States is 28,663. Number of houses occupied by Indians is 21,232. Number of Indians living on and cultivating lands is 8,612. Number of Indians in the United States who wear citizen's dress is 81,621. Number of Indians in the United States who can read Indian languages is 10,027. Number of Indians in the United States who can read English is but 23,495. There are ten Indian training schools located in different parts of the Union.

FASHIONABLE WOOD.—Oak finished antique will be as much used as ever in the manufacture of furniture next year. It is the most popular of all the woods, and the demand for it is steady, and no signs of a change in popular favor are apparent. Walnut is nowhere in the race with oak for popularity, and furniture of that richest of all materials, especially for the bedroom, boudoir, and dining room, remains in the warehouses uncalled for and in no demand. Mahogany is used now, as it always was and will be, for the finest goods, and cherry takes a high rank, but oak stands first in favor and will continue in the front rank for another year at least, and probably much longer, as there is nothing to take its place. For the cheaper grades of furniture, ash, maple, birch, and these woods, with various stains and finishes, continue, as they always will, in favor.

WHY "ONE IS TAKEN AND ANOTHER LEFT."

Nothing is more fruitful of surprises to many persons, at this season of the year particularly, than the apparently trivial causes inducing severe and even fatal illnesses. "Just a little chill, hardly noticed at the time," ends in bronchitis, or perhaps pneumonia. "Digestion a little off, but nothing extraordinary," develops into a dangerous fever, a liver complaint or rheumatism. Cause seems altogether out of proportion to effect in such cases; but, in point of fact, the cause has been ample, and the blunder in contemplating it has been in confounding the primary and real cause with an apparent secondary, which may be in truth nothing more than an indication of the commencement of manifestation of effects. It is not the pointing of a gun at a man, or even pulling the trigger of the weapon, that kills him, but the preliminary loading of the gun with powder and ball. Nothing is more clearly logical than like causes, under like conditions, produce like effects. This being the case, two men, alike heated and similarly clothed, exposed to a draught of cold air together, either should both be made sick by it or should both be unaffected. But it doesn't work that way. One is taken sick and dies, while the other is left in the enjoyment of just as good health as he had before. What makes the difference? It is all in the second limb of the proposition—the conditions of the men are not alike. The one who lives, and is not even conscious that he had any threatening influence about him, has had strong vitality, the result of healthful vital organs and their product—pure blood. His abounding health has been a protecting armor of ample proof against such assaults as have laid the other man low. But what has been the condition of that other man? His liver was torpid, his kidneys were overtaken in their effort to do the liver's work as well as their own, and had pretty nearly retired from service, his bowels had grown sluggish, and his blood was clogged with effete matter, seeds of disease and death. He had, by his own neglect of proper care for his physical conditions, loaded the gun of Fate and aimed it at his life. All that was required was a little puff of wind, a little too heavy a dinner, a little too much exhaustion by mental or physical labor—and the trigger was pulled.

In this plain and homely illustration of the case every intelligent reader will see clearly why it is that the mortality from apparently trifling causes is so much greater in the Spring than at any other season. People have been getting ready all winter to invite the familiarities of the bony party with the hour glass and scythe. They have been eating more rich and heavy food than was good for them, because it was winter and they were in the habit of doing so whether the season was cold or not. They have been taking too little exercise, because the weather was so unpleasant for walking. They have perhaps been keeping irregular hours, and to some extent indulging in stimulants, because winter is the social season; and if one is in society it is thought to be necessary to keep up with the procession, even if alcoholic "bracing up" has to be resorted to. Well, winter is over and spring upon us, with her treacherous alternations of temperature, shifting winds, and varying humidity. It depends upon ourselves whether we follow that other man and go down to nourish the daisies,

or stay above ground to enjoy them. If, by the prompt and thorough employment of effective measures for restoring healthy conditions to our vital organs, we purify our blood and so increase our vitality, we have nothing to fear; but if we neglect doing so, we are only justified in apprehending the worst results. Fortunately, nature supplies the most efficacious remedies, and they are well known. The principal one is, of course, sarsaparilla, especially the Honduras variety of that plant, which is by far the strongest in its alterative virtues. With it should be associated the active principles of yellow dock, podophyllin, stillingia, and the iodides of iron and potassium. This compound is infinitely more certain in its beneficial effects than any other known to science. Owing to the volatility of its principal constituent alkaloid—sarsaparilla—its preparation by druggists and small manufacturers, whose business does not warrant them in employing the costly machinery required by the "cold process," is impracticable. It is however, prepared in perfection by one firm, that of J. C. Ayer & Co., whose "Compound Extract of Sarsaparilla" is of such uniformly high character that it has been adopted into the *materia medica*, and is now universally prescribed by physicians all over the world. All who value their health should use this medicine during the present season.

BINDERS FOR THE AMERICAN ANALYST.

We have selected the 'Handy Binder' for binding the ANALYST, because of the following advantages: It is elegant in appearance, strong, durable and this new method of binding allows the opening of the pages perfectly flat, owing to the fact that none of the side of the paper is used. This method also permits the taking out and replacing of one or more papers from any part of the file without disturbing the other parts. After the file is completed it ceases to be a temporary binder, and with its contents becomes a perfectly and strongly bound book. Owing to the unusual size and strength of the linen binding cord in combination with two metal-

lic binding strips (loops), the strength and durability of the binding is wholly unequaled by any method yet introduced. Price, sent post-paid, 75 cents. To any subscriber renewing his subscription at \$1 sent directly to this office, we will send one for 25 cents, and we will give one free as a premium for every new subscription sent to us with \$1.

BUSINESS NOTES.

GELATINE.

Gelatine is a peculiar substance and must be manufactured by a person who by long experience and conscientious care makes it good. While to a limited extent it partakes of the nature of glue, good gelatine cannot be made where the manufacture of glue is carried on. An ill smell will not hurt glue, but does hurt gelatine. If gelatine is not perfectly sweet and pure, it is valueless. Let the housewife buying gelatine remember always to buy a brand which is not made in a glue factory, and she will never need to drown the offensive odor with essences or sherry wine. Chalmers' gelatine is the only American gelatine not made in a glue factory.

ANOTHER LARGE FACTORY IN BROOKLYN.

The large Rock Candy and Syrup manufactory of Dryden & Palmer, now located in Baltimore, will be removed to Brooklyn on May 1st. They will occupy the extensive buildings covering nearly a block, on Wythe Avenue, corner of North Third Street, in the Eastern District.

THE Y. P. M. WHISKEY.

A casual inquiry of one of the clerks in Acker, Merrill & Condit's store elicited the fact that this old brand has become the favorite. When asked the reason, he said that it was always the same and perfectly straight. At

Park & Tilford's the clerks said that there was more Young Whiskey sold than any other brand. This surely must be gratifying to Alexander Young Sons' Company. Yet strange to say we have been credibly informed that this house has had to refuse to fill orders from other parts of the country because their stock of seven-year old whiskey is getting low.

HORSFORD'S ACID PHOSPHATE,

BEWARE OF IMITATIONS.

Imitations and counterfeits have again appeared. Be sure that the word "Horsford's" is on the wrapper. None are genuine without it.

WHAT NEXT?—A late patent granted will bear the sign "Put a nickel in the slot and have your picture taken," the sensitive plate being exposed and then carried through the developing and fixing solutions by the mechanism set in motion by the nickel in falling.

POLAR FLOWERS.—Within the antarctic circle there has never been found a flowering plant. In the arctic region there are 762 kinds of flowers. Fifty of these are confined to the arctic region. They are really polar flowers. The colors of these polar flowers are not as bright and varied as our own, most of them being white and yellow, as if borrowing these hardy hues from their snowy bergs and golden stars.

BOSTON MILK SUPPLY.—In no city of the United States is the food supply more carefully watched than in Boston. The inspector of milk of that city has just made his thirtieth annual report, which covers the work performed by him during the year 1888. From this report it appears that 915,867 more gallons of milk were sold in 1888 than in 1887, and notwithstanding this increase, the quality was much better. In 1883, 60 per cent. of the milk examined was found to be below the standard fixed by law. In 1884, only 40 per cent. was below; in 1885, 30 per cent.; in 1886, 18 per cent.; in 1887, 12 per cent.; and in 1888, but 8 per cent. The inspector justly claims this great improvement as the result of the labors of his department.

LOOK OUT for Imitations and Substitutes OF *Horsford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, Jr.

ESTABLISHED 1798.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York. Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

A BOSTON PAPER SAYS:

"There is no hotel in New York so satisfactory as the famous Sturtevant House, Broadway, cor. 29th St. Its location is central, and Matthews & Pierson, its proprietors, serve guests on both European and American plans and their charges are very reasonable."

CALIFORNIA

Fine Table
Wines

From our Celebra-
ted Orleans
Vineyard.

Grand Harwinth & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }

**FACIAL BLEMISHES**

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY**DERMATOLOGIST,**

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

HORTON, CATO & CO.'S**"ROYAL" SALAD DRESSING.**

The best prepared Dressing, always fresh, does not turn oily, rancid or decompose as other dressings of a similar nature.

"ROYAL" WORCESTERSHIRE SAUCE,

The Peer of American Product.

HORTON, CATO & CO.,

SOLE PROPRIETORS AND MANUFACTURERS,
DETROIT, MICH.

LEA & PERRINS' SAUCE.

Lea & Perrins', the original and genuine Worcester-shire Sauce, has been before the public over a half a century. Like all popular favorites it has long been the standard of comparison and the pattern for counterfeiters who not being able to imitate its excellence offer to the public imitations in bottling, labels and style of putting up. They dare not counterfeit the signature of Lea & Perrins which is on the red label of every genuine bottle, and of which this is a facsimile.

Lea & Perrins

To be sure of obtaining the genuine article, see that the above signature is on the label.

Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

ALTHENE SKIN SOAP

An absolutely pure and perfect soap for all purposes of the toilet, nursery, bath or sick-room. Has the approval of leading chemists and physicians, and is recommended by all who have used it. Price 25 cts. a cake, or 65 cts. for a box of three. Can be obtained of the retail druggists or from

**J. W. CAMPION & CO., 916 Filbert Street,
PHILADELPHIA.**

**BLAIR'S PILLS**

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.
P. O. Box 1574.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the [Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

Robert Gordon's

TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO,—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,

In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

ESTABLISHED 1857.

J. H. CUTTER,

—OLD—

BOURBON AND RYE WHISKIES.

We are the Sole Owners and Proprietors of this Celebrated Brand of Whiskey.

C. P. MOORMAN & CO.

LOUISVILLE, KY.

We Guarantee the Superior Quality and Absolute Purity of every Barrel of Whiskey sold by us under this Brand.

STEWART CERAMIC CO.,

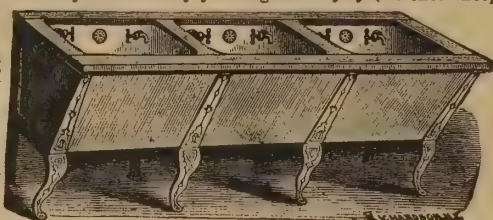
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top, SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT
A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use night or day, when traveling or at home.

MALTED MILK does away with the danger of using sour or impure milk.

MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.

Ask your physician his opinion of MALTED MILK, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and family use, ... \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes, manufacturers, merchants, physicians, chemists and private families all over the land, its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analyses of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,

19 Park Place, N. Y.

AN INCH OF RAIN.—An "inch of rain" means a gallon of water spread over a surface of nearly two square feet, or a fall of about 100 tons on an acre of ground.

SUBMARINE BOAT.—A boat has been recently devised by M. Goubet, a civil engineer of Paris, and has been submitted to the test of experiment at Cherbourg. This boat is 6 metres long and 1 metre and a half wide. It is entirely made of bronze, and its weight is 10,000 kilogrammes. It is also cigar-shaped, and at the roof a small observatory, with thick glass, protrudes to allow of observation, whether under or above the level of the sea. Two men compose the crew. The boat has been down to 13 meters depth very easily, and has well supported the tremendous pressure of 260,000 kilogrammes exerted on its surface at this depth. The uses it will be put to in naval war will be determined later, after new experiments on the subject. The time during which the crew may remain in the boat without experiencing any inconvenience is eight hours.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In dyspepsia and loss of appetite its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in Phthisis and other wasting diseases, Nervous Prostration, Constipation, Inanition, Malnutrition, Intestinal Indigestion and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.

Acidi Phosphorici aa, grains, ss.

Antipyrin.

Ext. Apii. Grav. dulc. (Celery), aa grains, j.

Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in Headaches, Neuralgia, Insomnia, Neurasthenia and general Nervous Irritability, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PEACOCK'S BROMIDES

(SYR: BROM: COMP: PEACOCK)

NERVE SEDATIVE.

Each fluid drachm represents 15 grains of the Combined C. P. Bromides of Potassium, Sodium, Calcium, Ammonium and Lithium.

USES:—EPILEPSY, and all CONCESTIVE, CONVULSIVE, and REFLEX NEUROSES.

This preparation has stood the test of time and experience, and can be relied upon to produce results, which can not be obtained from the use of commercial bromide substitutes.

DOSE:—One to two FLUID drachms, in WATER, three or more times a day.

PEACOCK CHEMICAL CO., St. Louis.

ESTERBROOK'S STEEL PENS
Leading Numbers 14, 048, 128
ESTERBROOK'S 130, 135,
FALCON PEN 333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

THE FINEST MADE
COLBURN'S
PHILADELPHIA
MUSTARD
KING OF CONDIMENTS

THE VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

OPIUM AND LIQUOR HABIT CURED.

WE solicit an investigation of our system and methods, and will gladly send to any one very interesting matter on the OPIUM HABIT DRUG KENNE'S and their effects and cure. Physicians specially invited to examine, and if desirous of trying our remedies, liberal arrangements will be made with them.

THE LESLIE E. KEELEY CO., Dwight, Illinois.

RIDGE'S FOOD

is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

(ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.
MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

ARMOUR & CO.

CHICAGO, ILLS.

PACKERS OF

Pork and Beef Products

CANNED MEATS,

ETC.,

FOR HOME CONSUMPTION AND FOR EXPORT

TO ALL PARTS OF THE WORLD.

Also,

SHIPPERS OF

Choice Pressed Beef,

MUTTON AND HOGS,

In Refrigerator Cars,

To BOSTON,

NEW YORK,

PHILADELPHIA,

BALTIMORE,

And other cities throughout the country.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans.
PRICE BAKING POWDER CO.
 NEW YORK. CHICAGO. ST. LOUIS.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

STERLING



BAKING POWDER

MADE FROM
99% PURE CREAM TARTAR.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.

STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"BILLET"

are

Carefully Selected
French Gardines,
Lacked in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY-STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

Is the Baby Happy?

If not make a test of

RIDGE'S FOOD,

and see if there is not a marked improvement in its condition. Thousands everywhere testify to its worth.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 13.

NEW YORK, THURSDAY, MARCH 28, 1889.

WHOLE No. 109.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Adulteration in Michigan.....	149
Coffee Imitations.....	148
Dream Vagaries.....	150
Domestic Dietetics.....	151
Editorials.....	145
The Packed St. Louis Convention; Philadelphia Food Inspection; Local Inspection and Rings; Libraries and Infection; Medical Frauds; Enforcing Pure Food Laws.....	147
Fainting.....	148
French Frauds.....	148
Miles of Wines.....	148
Worth, the Dressmaker.....	147

THE PACKED ST. LOUIS CONVENTION.

The Governor of Kansas, for some reasons best known to himself, some weeks since invited several neighboring States, including Colorado, Iowa, Minnesota, Kansas, Indiana, Texas, Missouri, Illinois and Nebraska, to send members of their respective legislatures as delegates to meet in convention at St. Louis on March 12th, to inquire into the alleged combination or trust, so-called, of Chicago beef dressers. Such a convention, called for such a purpose, would naturally be composed of opponents to the Chicago beef dressing interest. The convention was held, and, strange to say, the Associated Press, while it reported its first meeting and gave a list of the officers elected, never again referred to it, not so much even as to report the result of its proceedings. In a word, the much-talked of anti-beef dresser convention was entirely ignored. Why this was so becomes apparent when we read in one of the alleged butchers' organs what was actually done by the convention. They elected State Senator Frank E. Gillette, of Kansas, chairman. This is a man to whom the very mention of Chicago beef is like a red rag to a mad bull. That subject, however, for which the convention was

ostensibly held, was not admitted into the discussion. When a delegate from Iowa innocently introduced a resolution, directly in the line of the pretended purpose of the convention, to memorialize Congress for a law protecting local butchers and cattle raisers against the Chicago slaughterers, a perfect pandemonium broke loose, and the resolution was speedily buried out of sight. Another resolution still more to the purpose, to at once proceed to investigate the existence of the alleged meat or beef combine, was in like manner instantaneously sat upon and referred to the committee for burial. A third resolution in favor of a rigid anti-trust bill nearly met with a similar fate, for after considerable changing, it was adopted by a majority vote. The climax was reached, however, when the negro in the fence was at last uncovered. A bill similar to the Nebraska State inspection bill, which is clearly unconstitutional, was offered for consideration, and was railroaded through to adoption by a vote of 45 to 25. This evidently having been the sole purpose of this meeting, it adjourned at once. It is worthy of note, however, that even in this packed convention there were twenty-five men out of seventy who had enough common sense and self-respecting manhood to vote against such a foolish and iniquitous measure.

PHILADELPHIA FOOD INSPECTION.

At a recent meeting of the Philadelphia County Medical Society, the following resolutions were adopted and referred to a committee consisting of five prominent physicians: "The Philadelphia County Medical Society begs to call the earnest attention of city councils and the Legislature of Pennsylvania to the pressing need of provision for the inspection of all meat and milk used as food, with a view of furnishing sound meat and milk to the people. The society would also urge the necessity of killing and destroying all animals afflicted with tuberculosis, and the owner should be indemnified by the State. The society also recommends that a committee of five be appointed by the president of the society, whose duty it shall be to represent the society with a view of obtaining further information, and to confer with other bodies acting in this matter." Dr. Strawbridge, who introduced the resolutions, said: "Statistics as reliable as can be obtained make the statement not too broad, that in Philadelphia, about the present time, there is from three to three and one-half per cent. of tuberculosed meat used, and from six to eight per cent. of tuberculosed milk. Here in Philadelphia to-day there is no inspection of any kind. The best the board of health could do was to obtain an appropriation of fifteen hundred dollars for the appointment of a milk inspector, who will probably start to the stations to see how much water goes into the milk. Anybody can dump any kind of food in Philadelphia, and we must take it; but if we refuse to eat it, we are told that we are not good citizens. Meat ought to be inspected when alive, and also during the process of slaughtering. Unless you can inspect the animal alive, and also when

the internal parts can be viewed, the inspection is useless. In the inspection of milk, the principal thing is to see the cows that give it, so that they are not diseased, and to inspect it at its place of delivery."

LOCAL INSPECTION AND RINGS.

The *Merchants' Mail*, of Albany, strikes the nail on the head in the following retort to an attack upon Chicago dressed beef by one of our local contemporaries: "The *Butchers' Advocate* of New York grows frantic in its efforts to persuade its readers that Chicago dressed beef is unwholesome, not fit to eat, and people do not know what they are eating when they have it upon their tables. Such ranting is the worst kind of bosh and no intelligent man for a moment will give it any consideration. As far as health is concerned, we prefer a thousand times Chicago beef to home dressed, and so does the majority of consumers. If this were not so the great majority of butchers in this State would not handle Chicago beef. If the *Butchers' Advocate* wants to make friends for their side of the case it must change its tactics. We do not know anything about the butchers in New York City, but we do know something about them up this way. They may possibly have hayseed in their hair; but all the same they know there is no better inspection in the country than that carried on by the Chicago men and so does every other well informed man. These Western men invite anyone that so desires, to come and investigate their inspection. If the *Butchers' Advocate* is right, the public, long ago, would have found out something was wrong and would have remedied the evil mighty quick. The consumer wants Chicago dressed beef; first, because it is healthier and, secondly, because it is cheaper, acting as a leveler in keeping the price of meat down. The consumer doesn't propose to have any more West Albany rings to send the price of meat skyhigh and don't you forget it."

LIBRARIES AND INFECTION.

We have several times alluded to the possibility of infection being transmitted through the instrumentality of the books of circulating libraries. In its issue of March 8th, *Science* discusses briefly the same theme, with a distinct enunciation of the warning which we have been criticized for urging upon the managers of those institutions: Subscribers of public libraries have of late been warned against the danger of contracting contagious diseases from books which have been in houses where these diseases existed at the time. The health authorities of Dresden have been examining the dust which had accumulated on unused volumes, with reference to the discovery of micro-organisms, and especially the bacillus of tuberculosis. They report that they have found nothing of a harmful character, and have arrived at the conclusion that the danger of spreading infection by means of circulating libraries is very slight. They recommend, however, that books should be well dusted

before being read, and that the fingers should not be wet in the mouth in order to turn the leaves. If the experiment is correctly reported, the authorities of Dresden are not justified in deducing any such inferences. The material which may accumulate in the form of dust on "unused books," and that which may collect on books in infected rooms, are of a totally different character. To determine the danger from the use of these latter books, another series of experiments must be made, and, in the present state of our knowledge as to the germs of infectious diseases, not much could be expected even from such experiments. The germs of measles, scarlet fever, and small-pox, which diseases are known to be propagated by articles of wearing-apparel which have been exposed in infected rooms, have never been recognized, and the search for them in the dust which has collected on books would doubtless be as futile as it has been elsewhere; but there is no *a priori* reason why such books might not be carriers of contagion equally with clothing and furniture. The advice given to dust books well before reading them, in order to avoid danger, is, if the Dresden authorities are correct in saying that such dust is harmless, entirely unnecessary, while, if the dust should be infected, it would be the best possible way to spread the infection. Books which have been in an infected room, especially if they have been opened, should be destroyed. It is practically impossible to disinfect them.

MEDICAL FRAUDS.

The weather has been so uniformly mild throughout the past winter that any exhibition of coolness nowadays has a refreshing influence. But the Polar frigidity of some of the medical frauds of this community is calculated to induce a greater degree of nervous excitation than is wholesome, particularly in the system of a newspaper publisher. For example, we are in receipt of a letter from a so-called "Remedy Company" having its head-quarters within a few blocks of the Post Office, whose tricky devices and untruthful claims should debar it from recognition by any self-respecting journal in the country. The concern referred to, like all of its ilk, is an extensive advertiser, and about a year ago the AMERICAN ANALYST narrowly escaped from becoming one of its victims. We received through an agency in the city a contract for advertising a catarrh remedy, which, on its face, appeared to be a genuine thing, but which, after the lapse of several weeks, we discovered to be one of those ingenious frauds in which the patient responding to the advertisement receives a gratuitous recipe, of which one, at least, of the ingredients he finds himself unable to obtain of any druggist. His only resource is to buy it from the advertiser, and the alleged drug being claimed to be of great rarity he is compelled to pay a large price for it, only to increase the worthlessness of the compound to which it is added. As soon as we had our attention directed to the trick we investigated it, and the result was we promptly canceled our contract with the agency. Some months later, during last fall, we received from the same agency an advertisement for monthly insertion of a medicine which in this instance was to be furnished gratuitously, bottle and all. The fact transpired, however, that the alleged "doctor" advertising this remedy was identical with the one, though by another name, whose recipe fraud we had rejected, and we repudiated this second venture, as we had the other one, besides administering a rebuke to the agency which had lent itself to the dishonest scheme. It turned out as the result of our investigation that there are half a dozen of these charlatan devices for deceiving the public all advertised extensively, and each ostensibly belonging to a different proprietor, but all, in fact, owned by one concern which seeks to divert suspicion by operating under a variety of aliases. In spite of our emphatic repudiation of the scheme, we have before us, as stated above, a communication in which the barefaced assertion is made that the "recipe"

above referred to has been advertised in our columns "every year, at least seven months out of the year, the last five years," and that the "medicine" advertisement has been in this paper "numerous times during the last two years." In consideration of the extensive favor thus inferentially conferred upon us, we are requested to give gratuitous insertion to an editorial recommendation of the quackery "as long as our kindness lasts." We have reached that limit now. The partnership is herewith dissolved. This is the last notice we propose giving the cool fraud under consideration, gratuitously or otherwise, unless its effrontery shall sometime provoke us into denouncing it by name. We avoid specifying at present the various designations under which it cloaks its tricky methods, for the reason that we prefer, if it can be avoided, not to impart to it the credit, unenviable as it is, of being openly named in our columns. Moreover, our readers cannot err to their disadvantage if they recognize the tricksters we are denouncing in any and every one of the too numerous announcements everywhere displayed of wonderful specifics and remedies tendered to suffering humanity by disinterested humanitarians. All these announcements are, in the idiom of the street, "snides," and both health and pocket-book will be benefited by their scrupulous avoidance. If the patient insists upon using proprietary medicines, let him be careful to use such only as bear the stamp of honorably accredited manufacturers. A good thing in that line speedily makes itself known. An unknown remedy should be shunned as poison.

ENFORCING PURE FOOD LAWS.

We referred recently to the complaint of the government examining officer in Washington regarding the failure of the District of Columbia anti-adulteration law to accomplish its purpose. The subject has attracted considerable attention from the advocates of restrictive legislation of this salutary kind and the opinion of the government official above mentioned, that the law is ineffective because the public is indifferent on the point of food frauds, has been variously criticized. We think that he is only partially correct. Whatever may be the apathy of the public concerning the imposition practiced upon it, experience has almost infallibly shown the impossibility of inducing the irresponsible citizen to do the work that belongs ordinarily to the detective. Almost any law against any vice or wrong will fail which depends upon voluntary or unpaid for evidence. The truth is that the public will not do detectives' work. It was a great mistake, therefore, to enact a pure food law for the District of Columbia and not to provide with it the proper machinery for putting the law into operation. The Massachusetts law is effective because its machinery for working is complete. The New York law is largely a failure because the law as a whole is a poor one. What every State needs, and what the country needs, is pure food legislation which shall do for the foods and medicines industry just what any sensibly framed legislation does, that is, provide not only the law but the officials who shall watch for its violations, gather the needed evidence and enforce the proper penalties. The picture of the government officers sitting at their desks in Washington with a pure food law before them, waiting, perforce, for a good natured, easy going, selfish public to come in with the evidence that must be forthcoming before the law can be put at work is rather ridiculous even in these times so abounding in absurd things.

A REMARKABLE METEOR.—At Oswego, N. Y., one night recently, a large and brilliant meteor was seen. It appeared in the southern sky about ten minutes past 9, 25 degrees above the horizon. It seemed about twice the brilliancy of Venus. It moved horizontally from west to east with the apparent speed of a rocket. It grew in size as it moved, and in the southwest broke into three balls, each larger than the whole when first seen. Just before breaking it showed a red tinge, and after separation each part showed vivid green like the characteristic flame of copper.

ELECTRIC CAR HEATING.—The Grand Trunk Railway is preparing to make a practical experiment with the electric car-heating apparatus invented by Mr. Roe Fuller, an employe in the Grand Trunk shops. It consists of a dynamo placed in the baggage car, power being taken from the moving axles. A metal bar is placed in a tank of water in each car. Pipes from the tank extend all around the car. The metal bar is to be heated by an electric current, thus heating the tank and pipes.

EELS' BLOOD.—M. Mosso, of Turin, having carried out a series of experiments with the blood of eels, finds that it possesses marked poisonous properties. Even to the tongue it has an insupportable acidity, and a very small quantity of the serum is sufficient to kill a dog. Half a cubic centimetre injected beneath the skin of a dog weighing thirty-five pounds killed it in four minutes. At this rate an eel weighing five pounds would contain enough poison to dispatch ten men. The blood of animals thus poisoned cannot be made to coagulate as after the bite of serpents. Fortunately the blood is inert when introduced via the stomach, and it loses its toxic properties when heated.

A VENTILATING TAP.—An English mechanic has invented a ventilating tap for preserving beer and other liquids. The object of this tap is to overcome the difficulties experienced by all keeping beer, wine, etc., in their houses, when by carelessness or accident a quantity of liquid is frequently wasted or spoiled by the vent peg being left out. This tap is so constructed that when the liquid is forcing the key should only be turned quarter round, which allows the liquid to be drawn; but when vent is required to be turned half way, which will only admit as much air as is necessary to allow the liquid to run, and by the act of turning off the liquid at the same time it effectually shuts off the vent.

THE MEDAL OF EXCELLENCE

has recently been awarded to



BY THE AMERICAN INSTITUTE, OF NEW YORK.

The Judges of Award being

DRS. DAVENPORT, WOODWARD and MILLER,
Three Prominent Dentists of New York City.

Examine its construction, ascertain its results, and you will use no other.

A Perfect Polisher. Thorough Cleanser.
AT ALL DRUGGISTS.

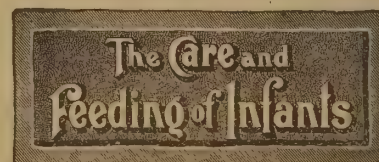
Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mailed.

HORSEY MFG. CO., UTICA, N. Y.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

WORTH, THE DRESSMAKER.

THE GREAT PARIS MODISTE RELATES HIS HISTORY.

PARIS, Feb. 13, 1889.

In its issue of March 8th, the *Boston Transcript* publishes the following communication from the famous Worth, in which our lady readers will doubtless take special interest:

I fear that the American public will scarcely find the facts of my career of sufficient interest to merit recording; but as I am assured that my name and my establishment are better known in the United States than I have heretofore imagined, I yield to the persuasions of an old American friend, and will set down at random some fugitive reminiscences. To this I consent the more readily, as many of the statements concerning me which have been published in the American papers are more or less erroneous. I am, as is, I believe, well known, an Englishman. I was born in the town of Bourne, in Lincolnshire. My parents desired that I should become a printer, and accordingly, at the age of thirteen, they apprenticed me to learn that trade. But I always had a great dislike to the occupation, having an instinctive repugnance to soiling my fingers. I only remained seven months in that position, for the dream of my life at that time was to go to London. Chancing to know a gentleman who was then a solicitor on Parliament Street, I wrote to him, begging him to find some position for me in the capital. He interested himself in me, and induced the dry goods firm of Swan & Edgar to give me a post in their establishment, where I remained for seven years. I was always treated with great kindness and consideration by the heads of the house. But my position was not one in which I was able to gratify my natural tastes and aspirations. I was kept at desk work, and was sent to match samples of goods, or to make payments, or to deposit money in banks. My great delight was in inspecting the cases of dresses, cloaks and bonnets that were sent over from Paris as models, and I used to give hints about trimmings and alterations, etc., which were found to be valuable, and so my taste and opinions came to be frequently consulted. I was wont in those days to talk a great deal to the buyers, who were sent from London to Paris, about matters and things in the latter city. A visit to Paris was then no small undertaking. The actual journey took two days and a half each way, so that the buyers from the house of Swan & Edgar used to consume from sixteen to seventeen days for each visit. Finally, Paris became the goal of my aspirations, as London had formerly been. I used to spend my evenings in the study of French, and whenever any French customers visited the shop, I invariably sought them out and tried my best to talk with them. One of my customers went into business at Caen, and I was in hopes that he would take me into partnership; but, on being disappointed in that quarter, I resolved upon going to Paris and trying my fortune there at all hazards. I had no idea of where I should go or what I should do when I got there. But I was so fortunate as to secure a position almost immediately in the house of Messrs. Gagelin & Co., in the Rue Richelieu, then one of the most extensive and best known establishments of its kind in Paris. I arrived there in the year 1846. Two years later came the revolution which overturned the throne of Louis Philippe, and affairs went very ill till after the establishment of the empire. But by that time I had made my way in the house, and had been appointed director of the cloak department, being shortly after taken into partnership. At that time the Maison Gagelin did not make dresses, it being considered derogatory to the dignity of the house to do so. The few, therefore, that I supplied were made outside under my supervision, by a dressmaker in my own employ. In fact, my actions were subjected to so many restrictions, and such vehement objections were made to all my efforts to extend the business, that I finally quitted the firm and went into business for myself. This was in

the year 1858. My partner was a Swedish gentleman, M. Bobergh, and the firm continued to be Worth & Bobergh, till the fatal year of the Franco-German war, which saw inaugurated my house as Worth alone. Before I left the Maison Gagelin, the firm counted many clients at the imperial court, although the house was looked upon as decidedly Legitimist in character, as it dated from the days of Marie Antoinette, and had hanging on the walls of its chief reception room a drawing in India ink of that queen coming to shop there soon after the accession of Louis XVI. It was extensively patronized by the ladies of the Faubourg St. Germain, and one of them introduced me to the Countess Pourtalés, through whose influence I first submitted one of my creations to the empress. It was a walking dress in grey taffetas trimmed with black velvet ribbons, the skirt and jacket made to match, which was then an entirely new idea, though the style has since become so universal. The empress admired it extremely. "But, M. Worth," she said, "I should not like to be seen in public in so novel a costume. I must wait till some one else has appeared in it; for in my position I ought not to attempt to set the fashion. I must be content with following it." So the Countess de Pourtalés took the dress, and six months later I made one precisely like it for the empress, which she wore at the Vincennes races. She was then in slight mourning for her sister, the Duchess d'Albe, and I furnished her at the same time with a house dress in black moire antique, cut princess, that is to say, with skirt and corsage in one piece, the first dress ever made in that style. This was the first order for my imperial customer that I ever filled. Before this epoch I had taken medals at the International Exhibitions of London, in 1852, and of Paris, in 1855. This was whilst I was still in the Maison Gagelin. My exhibit at the first Paris Exhibition was a court train in white moire antique, the ground almost entirely disappearing under embroidery in gold thread and pearls, the pattern of which was my own designing. It represented a series of graduated flounces in gold lace, spreading out in the form of a fan, and even at that epoch of low prices, when \$100 was considered an extravagant amount for a lady to pay for a magnificent dress, was valued at \$6,000. After the close of the exhibition, I took the mantle to the Tuileries to display it, by permission, to the emperor, as there was then talk of its being purchased by the State to be deposited in the Conservatoire des Arts-et-Metiers. The emperor greatly admired it; but, whilst he was examining it, M. Bacchiocchi, then one of the imperial chamberlains, who was present, exclaimed: "There has been a *fleur-de-lys* introduced into the pattern of the embroidery." This remark was not altogether correct, as the figure was not really a *fleur-de-lys*; but as the style of the work was that of the Renaissance, some of the interwoven lines of the design might have assumed a form not unlike that of the obnoxious emblem of the Bourbon dynasty. At all events that speech put a stop to any project the emperor might have formed of purchasing the mantle, and it was consequently left on my hands. Two things at the beginning of the empire combined to give to feminine dress an added importance. One was the invention of the crinoline and the other was the rage for fancy costume balls. The first one of these entertainments took place at the house of Mme. Tascher de la Pagerie, one of the relatives of the emperor, and was a comparatively small affair of an intimate and private character. The empress appeared at it in her first fancy costume, which was furnished by me, and which was a dress in black tulle and marabout feathers, representing Night. She gave her own first fancy ball at the Hotel d'Albe, then on the Champs Elysées, but long since torn down. For this entertainment I made her an elegant costume, in which she was to have personated Diana. The quiver was in silver, and the empress had caused a portion of the diamonds of the crown to be mounted as a long garland of oak leaves and acorns, which she was to have worn fastened transversely across the corsage. This garland was disposed of last year at the sale of the

crown jewels. But the mysterious death of a young relative of the imperial family, who was shot by some person or persons unknown, prevented her from appearing at the ball except incognita and shrouded in a plain domino. I supplied the empress with several other fancy costumes. One was that of Juno, and another the splendid dress of a dogaresa, or wife of the doge of Venice. For this last-named toilet she caused to be fashioned the necklace in diamond network, with a great imitation pear-shaped pearl suspended in each interstice of the network, which was sold amongst the crown jewels, and the fact of the pearls not being real created a good deal of talk at the time of the sale. She never wore this authentic and picturesque, but cumbersome, ornament. She tried it on several times, but it always marred the effect of her costume. It was sold for \$4,000, a price far beyond its intrinsic value. I last saw the empress on the occasion of her brief visit to Paris a few weeks ago. She has almost entirely regained her health under the treatment of the famous physician of Amsterdam whom she consults annually, and with her health she has regained a great portion of her beauty. Her complexion has naturally lost its freshness, but the grace of her carriage, the fine outlines of her features, and the beautiful mold of her bust and shoulders are as striking as ever. I have dressed many lovely women, but never a lovelier one than the ex-empress of the French. Once I made a dress in whose construction one hundred yards of silk were employed. It was in light glacé taffetas in three shades of purple, from delicate lilac to deep violet. The whole skirt was covered with close full ruchings in the three shades, and when completed the dress looked like a huge bouquet of violets. It has occasionally been stated in the newspapers that I have given up all active participation in my business, only remaining an hour or two daily at the establishment in the Rue de la Paix. That statement is incorrect. I arrive there early in the morning and never go home till six or seven o'clock in the evening. And every toilet furnished by the house receives my personal supervision, from the fashioning of the model to the placing of the final trimming.

CHARLES FREDERICK WORTH.

Fainting.

SOME SUGGESTIONS FOR THE TREATMENT OF THE SUFFERER.

Women faint much more frequently than men do, and young women than older ones. Yet old women do faint, and a fainting fit is more dangerous with them than with the others; and even strong men now and then succumb to the same weakness. Of course where there is disease of the heart, occasioning the phenomena of fainting, it has no respect of age or sex or person. In cases of what is known as fatty degeneration of the heart, or as a result of profuse hemorrhage, fainting becomes invested with great danger, and the event may even be fatal, the subject never coming out of the state of syncope. But in most instances fainting is a merely functional affair, implying nothing serious beyond the moment; in fact being more of a relief than otherwise, and more injurious—by means of the fright it gives them—to others than it is to the patient. The act of fainting may be said to be usually of nervous origin—horror, fear, joy, the sight of blood or of anything revolting, the receipt of nauseating odors, experience of foul air, or sudden shocks, all serving to produce loss of sensibility; or it may be occasioned by trouble of the stomach, by extremes of heat or cold, and by long and excessive pain. Of course there are various degrees of fainting, some people merely seeing the world turn black and vanish while retaining consciousness, and others losing themselves completely, and being to all visible intent and purpose as dead as they ever will be. In some the heart will beat, perceptibly, if slightly, and the breath will be present flutteringly; in others there

will be no pulse to be found, and no breath to be detected; and while with some the affair may be of moments, in others it may be of hours; usually, however, moments determine it. In all cases the face is pinched and pale; the heart refusing blood both to the brain and to the surface of the body leaves the system without consciousness, the countenance bloodless, and the skin cold. The remedies should be immediate, although under favorable circumstances nature herself assumes remedial duty. The patient should at once be laid flat upon the back, the head lower than the rest of the body, in order to restore the circulation by gravity; indeed many of those subject to fainting, upon feeling the first symptoms, allow themselves to sink into that position; for if they do not they have learned that nature will usually throw them into it unasked, and perhaps hurt them in doing so, unless she be barred by a straight-backed seat out of which sliding is impossible, or by a bracing and upholding crowd. The next thing to be done is to loosen all the clothes, so that the heart and the lungs may have free play. Following this, plenty of fresh air should be allowed the patient, and a counter-shock should be administered in the shape of a dash of cold water and the vapor of some pungent salt. These simple measures will generally give complete resuscitation, but if they do not, there should be no time lost in bringing a physician to the rescue. Young and sentimental girls often have an idea that there is something peculiarly romantic and attractive attaching to them when fainting. Never was there a greater mistake. Could they once see themselves, pallid and pinched and gasping, they would never wish any one for whose admiration they cared to have that same privilege. A susceptibility to fainting can be encouraged, like one to hysteria; but lovers who have any common sense will not allow themselves to be seriously bewitched by any one liable to such troublesome and unpleasant contingencies as either, health, being of all things, that most to be desired about them by those who wish to lead a pleasant life or to develop their powers.—*Harpers' Bazar*.

MILES OF WINES.

DISPOSITION OF LIQUORS IN THE VAULTS OF THE LONDON DOCKS.

The total floor area of the vaults of the London docks is a million superficial feet, and in this space 83,000 pipes of wine can easily be stored, and then room found for 75,000 casks of brandy. The various vaults are built in the form of a crypt. The largest of these, the east vault, covers four acres of ground, and as we take our light, a small oil lamp fixed to the end of a piece of wood some eighteen inches long, our guide informs us that there are in this cellar alone twenty-one miles of scantling wire, or miniature railway lines, over which the barrels are rolled. The roof, for yards and yards, is covered with a beautiful species of fungus, the growth of which is due to the fumes of the wine, a peculiarity which is all the more noticeable, as where no barrels find a temporary resting place, no fungus grows aloft. It is as light as feathers, and takes the most elaborate and artistic forms. Small hillocks, gigantic bunches of grapes, long ropes which a puff of the breath will snap in two, while such delicate designs are to be found here as to make the lover of lace envy the patterns. In the midst of all this, mushrooms grow, and in the season a good crop is always secured. The "drawing room" covers nearly an acre. This is a private vault, scrupulously clean, the sawdust carpet unspotted. It is rented from the company by a well known firm of wine merchants, and as we examine a cask called "The Duke," we learn how testing is managed. The bung of a barrel is never removed for testing purposes, but the attendant has to bore a small hole in the cask, and the wine flows into the "dock" glass. The taster having satisfied himself as to strength, the flow is stopped by the insertion of a small stick of wood. Every hole has to

be accounted for, and the total must correspond with number of "testing orders" issued from the owner's office. Sometimes a whole barrel runs away in tasting. The brandy cellar covers about seven acres of ground, and some 21,000 casks are resting there just now; but during the Franco-German war the authorities contrived to provide accommodation for 72,000 casks. All the brandy was driven out of France. Its value was \$15,000,000, and an official, who helped to receive the barrels at the time, has made an interesting calculation that if they had been placed in a line, they would have stretched for thirty-four miles. There are casks of brandy here, profusely decorated with cobwebs, over twenty years old. One of the gangways is nearly a quarter of a mile long, and in the midst of this huge cellar runs the snow tank, into which all the sluice, snow and mud of winter is poured. The "vatting floor," where brandy is improved by mixing one quality with another, contains some of the largest spirit receptacles in the world, gigantic yellow tubs, symmetrically made, on each of which is painted its holding capabilities. Here is one which requires 10,000 gallons of liquor to fill it, another takes 3,000, others 2,440, 1,450, 1,500, and 530, something like a thousand gallons of brandy running through the taps every day. The mixing process has ceased at the moment of our visit, but it is whispered that in another corner of the dock a large quantity of gin is about to be converted into "sweetened." The "sweetening" barrel, holding the modest quantity of 5,070 gallons—into which the gin in its unsweetened state is to be poured—is on one floor. Above it, immediately over its huge mouth, is an opening some yards in length, and four inches deep by nine inches wide, and into this a rivulet of gin is flowing from the interior of five large casks which are emptying themselves into the barrel below. As soon as these are empty, others take their place, and the "vat" filled, the sugar in a liquid state is added, the whole mixed together, and shortly afterward it is bottled, sent abroad and approved of as the choicest "Cream of the Valley." A word about the bottling department. As fast as the wine is put into bottles, it goes out for export, the number of dozens sealed, labeled, capsuled and packed in cases every day being 400. A good packer can case a hundred dozen bottles between 8 and 11 o'clock in the morning. In the cellar below the bottling room—where, by-the-bye, 600 dozen bottles can be placed side by side on the floor—barrels are kept, and although the cellar is lighted with gas, fifty-four lamps are needed for dark days, nine of these being "Davy's." Here in one corner are the wax pans, the merchants not only having to provide their own bottles and labels, but wax in the bargain. It takes five minutes to melt a pan of wax. It is placed in a copper pan, heated over a gas stove, and when melted is placed in a receptacle containing a small spirit lamp, which keeps the wax in a liquid state, and finally the case is locked.

COFFEE IMITATIONS.

SOME TRICKS OF THE TRADE PLAYED BY RUSSIAN MERCHANTS.

It is often said by captious critics that English people do not know how to make coffee, but, according to a recently issued report from the British consul at St. Petersburg, we are not, says the *London News*, only eclipsed by continental rivals in the art of preparing the fragrant drink, but also in the art of adulterating the raw material. Here we are familiar enough, or rather much too familiar, with chicory as a substitute for coffee, and, doubtless, most of us have heard of the inventive American who brought out a machine for compressing chicory into the form of coffee berries. In Russia the wary purchaser has to be on the lookout for other adulterants, such as burnt beans, roasted barley and the like. The British consul tells a story of an Odessa grocer who boldly offered a reward to any one who should discover chicory in the coffee he supplied.

As a matter of fact, a careful analysis did prove that the so-called coffee contained no chicory; but it proved more, namely that all produce of the coffee plant was equally conspicuous by its absence. The stuff was really nothing more nor less than roasted barley. In a similar way, tea, which is usually supposed to be so good in Russia, is very often made the means of fraud. A common trick is to mix the good tea with other leaves which have once been used and then dried, a practice which has obvious advantages to those dealers who would thereby feel themselves at liberty to say that the mixture contains nothing but tea. But the most usual adulterant is the leaves of the common willow herb, which, after drying, strongly resembles the true produce of China and India.

FRENCH FRAUDS.

AUCTION SALES IN PARIS OF SHAM MASTER-PIECES AND BRIC-A-BRAC.

Henri Rochefort, the distinguished French journalist, gives the following account of a species of Parisian roguery, from which American travellers on the Continent will do well to take warning:

The rage for bric-a-brac has somewhat abated since I published my book, the "Little Mysteries of the Hotel des Ventes," which was a first attempt at divulging the tricks and devices of auctioneers and salesmen in their dealings with the public at the well known Parisian auction rooms in the Rue Drouot. The work has gone through several editions and is at present out of print. Every gentleman buyer who strays inside this ugly building should know that, in nine cases out of ten, if he ventures to bid for an article put up for sale, it is the owner of that article who bids against him. There is nothing to distinguish the owner from the rest of those in the crowd. He will take up the article like any one else, look at it attentively, put it down, again ask to see it and scrutinize it as if he had never seen it before in his life. After this sham play, he will risk a good round bid, and follow it up against you through thick and thin, or as long as he thinks he can do so without peril and until a certain sum is attained. He will then stop short, and the article is knocked down to you. If the auctioneer knows the buyer, he merely writes the name of the latter upon a sheet of paper, or upon the catalogue opposite to the lot sold; otherwise the buyer must pay at once for what he has bought and settle the auction fees, which vary from five to thirty per cent. On afternoons of great picture sales in the season—from the close of November until the end of April—the Hotel Drouot is a characteristic sight in Paris. All the great amateurs flock to the place, with the most noted dealers from all parts of the world, the latter having often a kind of ambassadorial quality as the representative of European governments. The sales begin about two o'clock, but from three to four is the best hour. The order marked on the catalogue is not always kept; the different lots are sold as the auctioneer may think expedient; and as from three to four o'clock the rooms are usually at their fullest, the best articles are then put up for sale. It is no uncommon thing to have a single afternoon's sale in one room realize \$200,000, a hugely disproportionate share of which is swallowed up in expenses.

The purchaser of pictures or curiosities at the Hotel Drouot should always have present to his mind the legal maxim, *caveat emptor*, for the most knowing collector may be cajoled by the traps that are laid for him. The fact is that dealers in general are a sorry set of rogues. Their speculations in pictures are just as tricky as speculations in stocks. They get up corners; they run up prices and form rings; they let each other in, and they let the public in with a barefacedness that is simply astounding. It cannot be too widely published, for the benefit of this class, that more than half the pictures and studies signed Fromentin are by Paul Delamain, an artist who studied Algeria before Fromentin, and whose

sketches and studies were bought up at his death and prepared by the dealers. Numbers of pictures signed Jules Dupré are by Victor Dupré, only the dealers have tricked the signature. Of pictures by Diaz there is a well known manufactory in the Rue Bonaparte; and the dealers manipulate largely the signature of Richet, the natural son of Diaz, who has thoroughly caught the trick of his fathers' painting. Vernon, too, who is the real author of some of the master-pieces signed Hobbema, has frequently been tampered with by the dealers; and Longuet has painted scores of works to which the signature of Diaz or of Rousseau has been affixed. Quantities of sketches and studies sold as by Theodore Rousseau are by Kreyder, the flower painter who worked for a long time in Rousseau's studio at Barbizon, and who left a heap of his canvases there when he came back to Paris. At the Rousseau sale, Kreyder was astonished to find his studies sold as those of Rousseau. Kreyder did not protest, for he had nothing to gain, and the blunder amused him. As for Courbets, everybody knows whence many and many a Courbet comes. Towards the close of his life, Courbet, being obliged to produce a great deal, and rapidly, divulged the secret of his palette to some of his pupils. Among the most devoted collaborators was C. Pata, who accompanied him in his exile to La Tour de Peilz, and acquired thoroughly the thick color, the bold stroke and the knife tricks of the master of Ornans. Now, C. Pata is quite a remarkable painter, and, like Trouillebert, he sells his pictures as his own, only the dealers insist in changing the Patas into Courbets. At Rome and Naples the forgers devote themselves especially to counterfeiting work of the living painters, such as Detaille, De Neuville, Meissonier, and also the late De Nittis. For instance, of the picture of the "Place des Pyramides," bought by the French Government for the Luxembourg Museum, there exist to my certain knowledge no fewer than eight forgeries. At Geneva, too, there is a considerable manufactory of false Courbets, Corots, Rousseaus and Daubignys, and I fear that a thorough examination of American picture collections would reveal the sad fact that most of these ingenious counterfeits have found hanging room and honor in "le pays des dollars," the country of dollars.

There is a great passion nowadays for antique articles of furniture, and it has given birth to a world of sham antiquities. An army of handicraftsmen are busily engaged in the manufacture of these wares, which are palmed off on confiding people as being two or three hundred years old, and dated from any desired landmark in history. Old chairs, old tables, old dressers, old bedsteads and old anything, even if made last week, have great value in the eyes of many persons satisfied with antiquity in appearance. Worm-eaten furniture is now one of the rages. This stuff is easily produced with the aid of bird shot, which is fired into it. Old houses torn down furnish worm-eaten timber, which is turned to good account in fabricating old sets of furniture. Old door keys, mediæval bellows, gilt flambeaux in Louis XIV. style, warming-pans and brass fenders of the fourteenth century, candelabra, and even old snuffers, find purchasers as fast as these antique wares can be made by skillful artisans in out-of-the-way rooms of the gay capital. Old coins and Regency clocks are cast by the ton every day in Paris, but they are very scarce and bring fabulous prices. The man who buys for his own use or for his own comfort, had better abstain from articles such as these; but with a little or perhaps a good deal of time and patience he may at the Hotel Drouot be able to get some of the ordinary necessities of life, such as tolerably good furniture, and other things, probably for less money than he would have to pay at a shop. If, however, the legs of his chairs break within the first week, he is absolutely without redress of any sort. And if his purchases—as purchases at auctions so often do—appear very different when the articles have been brought home to what they did when looked at in the excitement of competition, he has only, in Paris as elsewhere, to grin and put up with it.

ADULTERATION IN MICHIGAN.

A LEGISLATIVE MEASURE PREPARED BY THE STATE BOARD OF HEALTH.

The following bill is now under consideration by the Michigan Legislature. It is entitled: "A Bill to prevent the manufacture and sale of adulterated articles of food, and to provide for their inspection."

SECTION 1. *The People of the State of Michigan enact,* That no person shall, within this State, manufacture, offer or expose for sale or sell any article of food which is adulterated within the meaning of this Act.

SEC. 2. The word "food," as used in this Act, shall include milk, tea, coffee, cocoa, chocolate, vinegar and every article used for food by man, and every article used for the flavoring or seasoning of such food. The word "person" as used in this Act shall include companies, corporations, partnerships, firms and associations.

SEC. 3. An article of food shall be deemed to be adulterated within the meaning of this Act:

First—If any substance has been mixed with it so as to reduce or lower or injuriously affect its quality or strength.

Second—If any inferior or cheaper substance has been substituted wholly or in part for the article.

Third—If any valuable constituent of the article has been wholly or in part abstracted from it.

Fourth—If it be an imitation of or sold under the name of another article.

Fifth—If it consists wholly or in part of a diseased, or decomposed, or putrid, or rotten vegetable, animal or other substance whether manufactured or not, or in the case of milk if it is the product of a diseased animal.

Sixth—If it be colored, or coated, or polished, or powdered whereby damage is concealed, or it is made to appear better than it really is, or of greater value.

Seventh—If it contains any added or poisonous ingredients, or ingredient which may render such an article injurious to the health of the person consuming it; provided, that the penalties specified in this Act for the manufacture or sale of adulterated food shall not apply to the manufacture or sale of a mixture or compound recognized as an ordinary article of food which is not injurious to health, and the article is distinctly labeled and sold as a mixture with a label securely attached thereto stating in plainly printed words the component parts of the mixture and the proportions thereof. Any article of food manufactured, sold, or exposed, or offered for sale not distinctly labeled as provided in this Act shall be presumed to be pure, and if found to be adulterated within the meaning of this Act, the penalties herein named are incurred.

SEC. 4. In order to enable any dealers to properly label articles designed to be sold, as to the purity of which they may be in doubt, and purchasers to ascertain if a provision of this Act has been violated, it shall be the duty of the Director of the Laboratory of Hygiene at the State University and the Director of the Chemical Laboratory at the State Agricultural College, to supply to each dealer or purchaser who shall submit for examination or analysis a sufficient quantity of the substance to be tested, a statement of the result of the analysis or examination of such substance, upon receipt of the costs of such analysis or examination.

SEC. 5. A State Food Commission is hereby established, as follows: The Governor, by and with the advice and consent of the Senate, shall appoint three commissioners, at least two of whom shall be chemists, who, with the Secretary hereinafter mentioned shall constitute said commission, and who shall hold their office as follows: One shall be appointed for the term of two years, one for the term of four years, and one for the term of six years, and at each regular session of the Legislature thereafter, one commissioner shall be appointed for the term of six years, and until his successor is appointed and qualified. Any vacancy in said commission may be filled by appointment by the Governor until the

next regular session of the Legislature. Before entering upon the duties of his office each member of the commission and the secretary hereinafter mentioned shall file his oath of office with the Secretary of State.

SEC. 6. At their first meeting, or as soon as a competent and suitable person can be secured, the three commissioners appointed by the Governor shall elect a secretary, who shall, by virtue of such election, become a member and the executive officer of said State Food Commission. Said commissioners may elect one of their own number secretary, in which case the Governor shall appoint another member to complete the full number of said commission.

SEC. 7. Said commission shall meet quarterly at Lansing, and at such other times and places as they may deem expedient. They may choose one of their number to be their President, and a majority shall constitute a quorum for the transaction of business.

SEC. 8. The Secretary shall hold his office so long as he shall faithfully discharge the duties thereof, but may be removed for just cause at a regular meeting of the commission, majority of said commissioners appointed by the Governor voting therefor. He shall keep his office at Lansing in rooms to be provided by the Board of State Auditors, and shall perform the duties prescribed by this Act, or lawfully required by the commission, and shall have the custody of all books, papers, documents, samples and other property required by said commission in the performance of their duties.

SEC. 9. The Secretary shall receive an annual salary, payable monthly, which shall be fixed by said commission, but not to exceed two thousand dollars. The commission shall certify the amount due him, and on presentation of said certificate the Auditor General shall draw his warrant on the State Treasurer for the amount. The commissioners appointed by the Governor shall each receive compensation at the rate of five dollars per day for actual services rendered, and each member of the commission, including the Secretary, shall have his actual and necessary expenses while employed in his official duties, and which salary and expenses shall be stated in account under oath, and when allowed by the Board of State Auditors shall be paid by the State Treasurer on the warrant of the Auditor General.

SEC. 10. Said commission shall be charged with the duty of enforcing the provisions of this act, and shall make all necessary investigations and inquiries in reference to the adulteration of articles of food, and for these purposes may appoint or employ inspectors, analysts and chemists, who shall be subject to their supervision and removal, and whose accounts for services and expenses shall be sworn to by them and certified by said commission, and when allowed by the Board of State Auditors, shall be paid by the State Treasurer upon the warrant of the Auditor General. Said commission may also in their discretion apply to the director of the Laboratory of Hygiene at the State University, or to the director of the Chemical Laboratory at the State Agricultural College, and submit to him samples of articles of food for examination and analysis; and it is hereby made the duty of said directors to make examination and analysis of articles of food so furnished by said commission, and the costs of such examination and analysis shall be stated in account and certified to by the commission, and when allowed by the Board of State Auditors, shall be paid by the State Treasurer upon the warrant of the Auditor General.

SEC. 11. Within thirty days after the appointment of said commissioners and the election of said secretary, the commission shall meet at the State Capitol at Lansing, and adopt such measures as they may deem necessary to facilitate the enforcement of this act, and shall prepare rules and regulations with regard to the proper methods of collecting and examining articles of food. Besides the expenses incurred in the publication of the report hereinafter mentioned, said commission may expend annually an amount not exceeding eight thousand dollars for the purpose of carrying out the provisions of this act, which amount the Auditor General shall appor-

tion, as other State taxes are apportioned, to be raised by State tax in the year 1889 and each year thereafter.

SEC. 12. Every person offering or exposing for sale or delivering to a purchaser any article of food included in the provisions of this act, shall furnish to any analyst or other officer or agent appointed hereunder, who shall apply to him for the purpose, and shall tender to him the value of the same a sample sufficient for the purpose of analysis of such article of food in his possession.

SEC. 13. Before commencing the analysis of any sample, the officer having charge of the same shall reserve a portion, which shall be sealed and properly labeled; and in case of a complaint against any person, the reserved portion of the sample alleged to be adulterated shall upon application be delivered to the defendant or his attorney.

SEC. 14. Whoever hinders or obstructs or in any way interferes with any inspector, analyst or other officer appointed hereunder in the performance of his duty, and whoever violates any of the provisions of this act, shall be punished by a fine not exceeding one hundred dollars or by imprisonment in the county jail not exceeding ninety days, or by both said fine and imprisonment, in the discretion of the court.

SEC. 15. Whoever sells any kind of diseased, corrupted or unwholesome food, knowing it to be such, or sells food which has been adulterated within the meaning of this act, without making the same fully known to the buyer, shall be punished by imprisonment in the county jail not exceeding ninety days, or by fine not exceeding one hundred dollars, or by both said fine and imprisonment, in the discretion of the court.

SEC. 16. Whoever adulterates for the purpose of sale any substance intended for food with any substance injurious to health, or barbers, gives away, sells or has in his possession with intent to sell, any substance intended for food which has been adulterated with any substance injurious to health, shall be punished by imprisonment in the county jail not exceeding ninety days, or by fine not exceeding one hundred dollars, or by both such fine and imprisonment, in the discretion of the court.

SEC. 17. Said commission shall annually make a report to the Governor, giving an itemized account of all money expended in carrying out the provisions of this act, the number of prosecutions under this act and the result of the same, the number and kinds of articles analyzed by them or under their direction, and the result of such analyses, and such further statement of facts as when published will enable the people to guard against the purchase and use of adulterated articles of food. Three thousand copies of said report shall be printed, one hundred and fifty copies of which shall be deposited in the State Library, for use in said library and for exchanges; two hundred copies shall be deposited in the office of the Secretary of State for distribution, and the remaining two thousand six hundred and fifty copies shall be distributed by said commission, in their discretion.

SEC. 18. It is here made the duty of the prosecuting attorneys within this State to appear for the people and to attend to the prosecution of all complaints under this act in their respective counties.

SEC. 19. All fines assessed and collected by prosecutions begun under this act shall be paid, one-half into the State treasury and one-half into the county treasury where the prosecution took place.

NEW TEXTILE.—A new textile has been discovered in Russia, on the borders of the Caspian Sea. The plant is called kanaff by the natives, and attains a height of ten feet. From it a chemist has obtained a textile matter which is soft, elastic and silky, gives a thread which is very tough and can be bleached without injury. The stuffs manufactured out of kanaff can be successfully dyed in every shade of color, and would compete with any of the ordinary furnishing materials now in use. But it is particularly suited for making sacks, tarpaulin, ropes, etc., that this new textile, from its cheapness and its extraordinary resisting power, might defy all competition.

DREAM VAGARIES.

THE EXPLANATIONS OFFERED BY SCIENCE OF SOME CURIOUS PHENOMENA.

From time immemorial dreams have been the wonder-land of waking hours. Hope and fear have wrought them into their own fabric. Superstition has seized upon them and worked up a curious ritual of "dreams that go by contraries," of "dreams of the morning light," of dreams with significances, some of which seem natural enough, while to a few of those apparently most arbitrary science herself has offered a certain amount of explanation. Dreaming is an experience which may be called common to humanity, though it varies so widely in different individuals that in a few exceptional cases it is absolutely unknown. Certainly dreams are often made of materials very inadequate to their finished results. Abercrombie relates that during an alarm of a French invasion in Edinburgh it had been arranged that the first intimation of the enemy's approach was to be the firing of a gun from the castle. A certain gentleman, a zealous volunteer, retired to bed, dreamed that he heard this gun, went out, and witnessed and joined in the proceedings of the troops. At this juncture he was awakened by his wife in a great fright, she having had a similar dream. It was ascertained that the falling of a pair of tongs in an upper chamber was the common origin of the dream in two minds already predisposed to the same line of fancy. Another instance is given of a person sleeping in a room where a flat-iron was allowed to scorch a woolen garment. The sleeper dreamed that the house was burned down, and that she could not escape because all her clothes were destroyed! A gentleman, who, before retiring to sleep, had been reading a book of picturesque travels, dreamed that he was journeying across the Rocky Mountains. He was attacked by two Mexicans, and after a gallant fight was taken prisoner. His captors believed him to be the possessor of secret treasure, and, in order to make him reveal its whereabouts, put him to the torture of stripping his feet and holding them to a fire. Waking with a cry of agony, he discovered that his hot-water bottle had escaped from its flannel swathings, and that the undue heat of his toes had conjured up all the rest of the tragic story! A French physiologist caused many curious experiments to be made on himself during sleep. These experiments took the form of trifling physical sensations, which produced almost invariably a wonderfully exaggerated effect on the sleeping mind. Thus a feather tickling the lips was converted into the horrible punishment of a mask of pitch being applied to the face. A bottle of eau de Cologne held to his nose sent him into a dream of a perfumer's shop in Cairo. A pinch on the neck recalled the days of his boyhood, and the old family physician applying a blister to that region. One authority declares that in a dream he made a voyage to India, spending several days in Calcutta, continued his journey to Egypt, visited the cataracts and pyramids, and held confidential interviews with Mahommed Ali, Cleopatra and Saladin, the whole journey apparently occupying several months, but he had slept only an hour. Scientific writers admit that there is a type of dream in which coming physical disease or disaster is shadowed forth—some bodily sensation, perhaps too slight to be noticed by the subject when awake, yet contriving to impress itself in some symbolic form on the sleeping mind. The more striking instances of this sort may serve to explain how, in some lesser degree, certain symbols are likely to attach themselves to certain painful sensations or conditions, until at last they are finally accepted as mysterious presages of evil. Conrad Gressner, the eminent naturalist, dreamed that he was bitten on the left side by a venomous serpent. In a short time a severe carbuncle appeared on the very spot, terminating his life in the space of three days. Another scientific man, who dreamed of being bitten by a black cat, also suffered in the same way. A learned Jesuit author of many erudite theological works, saw, one

night in his sleep, a man laying his hand upon his chest, who announced to him that he would soon die. He was then in perfect health, but was shortly after carried off by a pulmonary disorder. A lady, who had a dream in which she saw all objects dim and obscured as by a mist, was soon after attacked by a disease of the eye, of which that was a symptom. A dream of a great fire, in which the sleeper himself seemed to be consumed, was followed soon after by an attack of inflammation of the brain. Apoplexy, epilepsy and similar diseases are often preceded by frightful dreams, in which the sleeper feels himself scalped by Indians, thrown over precipices, or torn to pieces by wild beasts. Such

Miserable nights

So full of fearful dreams, of ugly sights!

should be treated as "warnings" in the truest sense of that word—as sent by Nature to foretell impending evils which skill and wisdom may be able to avert.

Thus, if science has dispelled such old wives' fables as that to dream of a marriage signified a death, or to dream of a cat meant to meet a foe, she has certainly added mysteries and terrors of her own to the subject. One learned man has actually tried to systematize those subtle premonitions—to make them more available for use and guidance. In his opinion

"Lively dreams are in general a sign of the excitement of nervous action.

"Soft dreams are a sign of slight irritation of the head; often in nervous fevers announcing the approach of a favorable crisis.

"Frightful dreams are a sign of determination of blood to the head.

"Dreams about blood and red objects are signs of inflammatory conditions.

"Dreams of distorted forms are frequently a sign of obstructions and diseases of the liver.

"Dreams in which the patient imagines torture or injury of any limb indicate disease in that limb.

"Dreams about death often precede apoplexy, which is connected with determination of blood to the head."

An educated and very sensible lady had been through a rather fatiguing social day. On retiring to bed she soon fell asleep, and presently dreamed that an old man clothed in black approached her, holding out an iron crown apparently of enormous weight. As he drew near she recognized the features of her father, who had been dead for many years. He addressed her thus: "My daughter, during my lifetime I was forced to wear this crown. Death relieved me of the burden, but it now descends to you." He placed it on her head and gradually disappeared. Immediately she felt a weight and tightness about her brow. Further, to add to her torture, the rim of the crown was studded on the inside with sharp points, which wounded her forehead so that blood ran down her face. She awoke, agitated and excited, but otherwise quite well, and found she had been asleep little more than half an hour. On falling asleep again the dream was repeated, with the additional circumstance that the apparition of her father now reproached her for her unwillingness to wear the crown. When she awoke again she found she had been asleep for three hours. Again she returned to bed, and the dream was repeated in broad daylight. She now arose and made her toilet. Going over the circumstances of her dream, she recollected having heard her father say that during his youth, spent in a distant land, he had been subject to epileptic convulsions consequent on an accident, and that he had been cured by the operation of trephining. On a sister entering her room she proceeded to narrate the picturesque vision which had, naturally, made such an impression on her memory. While thus engaged she suddenly gave a shriek, became unconscious, and fell upon the floor in true epileptic convulsions, though the attack was but a slight one. A week afterwards the dream was repeated, and was followed by another attack. Under suitable treatment both dream and attack ceased to occur. It is a most

singular fact that under certain combined conditions of fatigue, discomfort and malaria whole bodies of men—such as companies of soldiers—have been seized by the same terrific dream, and have awakened simultaneously shrieking with terror. Such an instance is related by Laurent, when, after a forced march, 800 French soldiers were packed in a ruined Calabrian monastery which could ill accommodate half that number. At midnight frightful cries issued from every corner of the building as frightened men rushed from it, each declaring that it was the abode of the evil one—that they had seen him in the form of a big black dog, who threw himself upon their breasts for an instant and then disappeared. The men were persuaded to return to the same shelter on the next night, their officers promising to keep watch beside them. Shortly after midnight the same scene was re-enacted—the same cries, the same flight, as the soldiers rushed forth in a body to escape the suffocating embrace of the black dog. The wakeful officers had seen nothing.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

March.

MEATS.—Beef, mutton, ham, kidneys, liver, venison, sausage, veal.

GAME AND POULTRY.—Grouse, hare, pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, pike, rock-fish, salmon, smelt, whitefish, trout.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress.

FRUIT.—Apples, bananas, oranges.

PRACTICAL RECIPES.

DRIED PEA SOUP.—Let a pint of dried peas soak over night in two quarts of cold water. Put on the fire with one gallon of cold water and one quarter of a pound of bacon or salt pork fried to a light brown. When it boils skim carefully, cover, and let simmer for three or four hours. When the peas are very tender strain them out and mash them through a sieve into the soup again, return to fire, add a teaspoonful of sugar, two quarts of stock, and when it boils a tablespoonful of flour will mixed into a tablespoonful of butter. Season and serve with little dice of toasted bread.

PEA SOUP WITH CREAM.—Use the above recipe, substituting a cupful of sweet cream for the pork or bacon and butter; season with celery. Sweet corn is also nice in pea soup.

TARTARE SAUCE.—Yolks of two eggs, one-half cup olive oil, one saltspoonful salt, one-half saltspoon pepper, one tablespoonful vinegar, one-half teaspoon mustard, one tablespoonful chopped gherkins or capers. Beat the yolks and vinegar together; add to them the salad oil drop by drop. When all is in add other ingredients, and serve with cold fish or meats.

TOMATO TOAST.—Toast thin slices of bread very thoroughly on both sides; butter and lay on a platter. Put a pint of stewed tomatoes through a colander; put them in a stewpan and season. When just ready to serve, add a pinch of soda, and then one-half pint of thick cream; pour over toast and serve at once.

BISQUE ICE CREAM.—To three pints of cream add one-half pound macaroons, dried and pounded to a dust in a mortar; add sugar to taste, and one-half pound of almonds, blanched, washed and chopped. Put in freezer, and when half frozen add two wineglassfuls of sherry; freeze and serve in a mold.

FRICASSEE OF OYSTERS.—One pint oysters, one pint milk, or milk and cream, two tablespoonfuls corn starch, two heaping tablespoonfuls butter, one egg. Scald oysters in their liquor; drain and put over the fire in a stewpan, with one tablespoonful of butter. Let them just begin to curl, when remove from fire. In another pan have the milk cooking; when it is about to boil, add the thickening, with one tablespoonful of butter; when thick, take from the fire and add the oysters. Stir all slowly into the beaten egg; add seasoning to taste. Put on the fire again for three or four minutes, and serve hot.

HOMINY MUFFINS.—One large cupful white flour, two teaspoonfuls salt, and two teaspoonfuls Horsford's baking powder. Mix together while dry. Then add two cupfuls cold boiled hominy, beaten smooth; three eggs, one-half cup melted butter, two tablespoonfuls white sugar, and sweet milk enough to make a thick batter. Bake quickly.

JELLY.—One cupful sugar, one egg, the juice and grated rind of one large lemon, one tablespoonful water, one teaspoonful of flour. Place the dish in boiling water, let it thicken; when cool, spread.

TO USE UP COLD MEAT.—Prepare meat as for hash; make it in rolls (like a sausage) by binding it with raw egg; tie each roll carefully in cabbage leaf, and boil one-half to three-quarters of an hour in weak stock.

SALT WATER IN GAS WELLS.—Salt water is beginning to be a great nuisance to the oil and gas resources of North-western Ohio. It is invading nearly all the wells, and making an immense amount of trouble, some property having been altogether abandoned on account of its presence. Salt water is effecting the gas wells of Findlay to a large extent, more noticeably in the famous "Karg," which at times cannot be used for several days. After a period of rest, however, the disturbing element seemingly disappears, but under high pressure upon the well returns again.

CARE OF UMBRELLAS.—Umbrellas will last much longer if, when they are wet, they are placed handle downward to dry. The moisture falls from the edges of the frame, and the fabric dries uniformly. If stood handle upward, as is commonly the case, the top of the umbrella holds the moisture, owing to the lining underneath the ring; it consequently takes a long time to dry, and injures the silk or other fabric with which it is covered. This is the main cause of the umbrella wearing out so soon at the top. Umbrella cases are responsible for the wear of the silk. The constant friction causes tiny holes that appear so provokingly early. When not in use the umbrella should be let loose, and when wet left loose to dry.

BUILDING FIRES.—When the fire dies out or burns out (it will not do either if one attends to her business) there is a crust on top with either a vacant space or a bulk of ashes and cinders below. In either case do not touch the stove with shaker or poker. Take some thin pieces of pine, long enough for the purpose, thrust a piece here and there through the crust as far as you can, as you would stick pins in a pin cushion. The lower end of the sticks should reach towards the bottom of the ashes. The tops should project a few inches above the crust. Fill the space between the projecting sticks on top of the crust with paper, put a little larger and harder wood on top, light the paper, and when the fire has run down the sticks you can riddle the stove slightly and put on the coal.

AN AIRY FLIGHT.—According to a correspondent of the *Electrical Review*, Mr. Edison believes that the time will come when transportation through the air will be the order of things in that line. The idea that the airship must go up a mile or more is erroneous. If it were no higher than an ordinary building it would suffice. "When the time comes for it to be put in operation," he said, "there will be one drawback to it, and that is the ease which it will afford criminals to make their escape from whatever point their crime was committed. There will be no danger of their being intercepted by wire, as is the case now. It may be that the same science which will give us this sort of navigation will provide something else by which criminals, who make their escape through the air, will be overtaken. But this will take time. In my opinion, when we shall have aerial navigation we shall see more crime."

THE VALUE OF SALADS.

It is an unfortunate fact that the dietary value of salads is but little comprehended by the majority of the American people. Leaving out of consideration those thorough barbarians—sadly numerous, particularly in the rural districts—who look upon "grass-eatin'" with unconcealed contempt, we still have a multitude among us of persons deeming themselves intelligent, who either care nothing for salads, or, at best, look upon them as mere gratifications of the palate, knowing nothing of their importance for the preservation of health. To these it is well to offer the assurance that if they will make a salad of escarole, *barbe de capuchin*, chiccory, dandelion, lettuce, celery, or even of the humble cabbage—better in this way than any other—a portion of their daily dinners, they will soon realize that their digestive and assimilative organs are in better condition than they ever were before. The fresh vegetable material of the salad is in itself highly beneficial, especially in the winter and early spring, when there is a paucity of this element in our ordinary food supply; the oil is a highly valuable ingredient for its effect upon the stomach and bowels; and the garlic—well, some folks do not like garlic, but a right-minded man will want a little flavor of it in his salad, and you can hardly get so little of it in that it will not do you some good, so potent are its virtues. The dandelion salad is worthy of special mention and commendation, from our present point of view, not because it tastes better than either of the others, but for its medicinal effect. It must be a sadly worn-out liver that will not take new lease of vigorous life from a course of dandelion salads in the spring time.

Eminent physicians have affirmed repeatedly that the requirement for their profession would be reduced to a minimum if people would only regulate properly their diet; and some have gone so far as to proclaim that nearly all diseases could be prevented and many of them actually cured by employment of the remedial agencies to be found in food. They are undoubtedly right. Proper feeding is the most important requisite for the preservation of such healthful condition in the organs of digestion and assimilation as will afford pure blood, without which rapid deterioration and disease of the whole animal economy is inevitable. The attainment of that condition is the main end in view in the highest medical science. "An ounce of prevention is better than a pound of cure." That is why, if we have not eaten plenty of salads and otherwise lived exactly as we should through the winter, it becomes so imperatively necessary for us to take an efficacious alterative medicine upon the approach of Spring. Cause and effect, in the preservation of health or inducing of disease, move in a constantly widening circle. If our vital organs are in such torpid and weakened condition that they do not make good blood and cleanse it from the effete matter that has a tendency to constant accumulation in it, through the never ceasing waste of tissue, the consequently impure blood fails to properly nourish the organs and their weakness steadily increases, until they stop working altogether. On the other hand, a little rational care to keep the bowels regular, the kidneys operating freely, and the liver active in the discharge of its functions, results in pure blood, higher vitality, and immunity from disease. That rational care may be applied either through proper food or simple alterative medicines. An important element of the former is that upon which we have insisted—fresh vegetable salads. Of the latter there is nothing better than a thoroughly reliable preparation of sarsaparilla, yellow-dock, podophillin and stillingia, with the addition of the alterative iodides in very small proportions. No person, who is not confident that his vital organs are in the most perfect state of health and his vitality the highest possible, should neglect taking that preparation, in the spring season especially. A number of manufacturers profess to offer it to the public, but we can conscientiously

recommend none but that put up by J. C. Ayer & Co., under the title of "Ayer's Compound Extract of Sarsaparilla." There is no secret about its composition, which is well known to the medical profession and universally approved; the reputation of the firm guarantees such excellence and uniformity in the medicine as to warrant full reliance upon it and the world's experience during more than a quarter of a century has fully demonstrated its value.

"IT LOOKS A LITTLE BETTER."

Only a small minority of the patrons of the "bazaars" are men. A man buys what he wants, no matter what it costs; a woman buys what she does not want, if she thinks it is cheap. That, of course, is a generalization. Exceptional women exist who "buy like men," but the bazaar system has not been invented with a view to securing their patronage. In fact, they are not much wanted in those "comprehensive establishments," for the bazaar-keeper very naturally dreads the influence of their intelligent example on the majority, whom he calculates upon beguiling by his seductive bait of "cheapness." His artful game is the popularization of the hallucination that goods may be bought from him for less than from others, and in many cases even below their actual value. To cultivate this delusion, he has various cunning methods, to which reference has already been made by the AMERICAN ANALYST, such as the selling of limited quantities of articles—with the value of which the public are thoroughly acquainted—at actually less than cost, and the retailing of job, auction and bankrupt lots of goods at preposterously low figures. His "book" department also aids him very materially. Not one in a thousand persons knows the enormous difference between the actual cost and the retail selling price of a bound book. When they see offered on the bazaar counter for thirty cents a book that they are aware the retail bookseller demands \$1 for, they do not know that even at thirty cents the bazaar-keeper is making three or four cents, or perhaps even more, upon each volume. The only fact patent to their comprehension is that the books are astoundingly cheap. How does the bazaar-keeper do it? The hypothesis that he steals his stock hardly seems tenable. The question suggests a fascinating mystery, and to women's minds too often involves the altogether incorrect conclusion that if he can do such an immense business successfully, selling goods of one kind at a sacrifice, he must sell all that he offers on the same generous plan. If the bazaar-keeper is asked for an explanation, he replies: "Ah! you see, we do such an enormous business!"—in which his logic seems to be upon a par with that of the old apple woman who, being asked if "You buy your apples at two for a penny, and sell them at three for a penny, how can you possibly make a living at it?" answered: "Oh! sir, I sell so many of them!"

No dialogue is more frequent among women than one like this:

"You paid fifty cents a yard for it! Do you know that you can get exactly the same thing for forty-seven cents at ———'s bazaar?"

"Are you sure that it is the same?"

"Oh! certainly. I priced it only yesterday. It looks just precisely the same, or perhaps, if anything, a little better."

That "looks a little better" indicates the figurative wood-pile in which the proverbial African is concealed. In plainer phrase, it touches the secret of the cheapness of the bazaar-keeper's goods. He seems to be selling them for just what other retailers have to pay for them to the manufacturers, or perhaps for even a little less. How can he afford to do that, and yet pay rent, gas, interest on investment, employees' wages, the cost of enormous advertising and the manifold other expenses involved in his business? The answer is easy. He sells an article that "looks a little better," but is not the genuine thing. Possibly, if he were a most eccentric sort

of philanthropist, he might consciously go on making women happy by selling them goods for less than their real value, until he went into inevitable bankruptcy; or if he were a fool he might pursue the same course unwittingly. But that he is neither, and that he does not travel toward insolvency from either cause, is sufficiently demonstrated by the wealth that he steadily accumulates. He is doing business to make money. So long as people are to be influenced in their purchasing by making apparent cheapness a primary consideration, he will fool them "to the top of their bent" with marvels of cheapness. If the goods do not wear well, "perhaps," the buyer will console herself by thinking, if she "had taken others at three cents more per yard elsewhere, they might have been no better;" or, "they have been pretty hardly used;" or, she is "tired of them anyway, and wants something new;" and, "at all events, they were so cheap." And she goes back to the bazaar to buy more cheap imitation goods. It need not be considered a discredit to a woman to say that she is unable to detect the difference between genuine and imitation goods, even among textile fabrics, the range of material in which she may naturally be supposed to be best informed. Very often trained experts are in doubt, and can only decide after very delicate and carefully made tests. The skill of the spinner, weaver, dyer, color printer and finisher may "deceive even the very elect," when they combine together to get up an article that, costing less than something else, still "looks a little better." Slight changes in material employed or in its treatment may readily make very considerable reduction in actual cost to the manufacturer, without creating any difference liable to exposure by anything short of the crucial test of "wear and tear," and a little of the saving thus effected may well be expended on giving a superior finish to the exterior of the imitation. This is one of the secrets of the cheapness of bazaar goods, and the extension of its application is almost unlimited. Wide as is the field for deception in dress goods, it is even greater in the made-up articles—for which there are now prominent "departments" in the bazaars—ladies' suits, wraps, cloaks, shoes, etc., where the art of making things look better than they are finds infinite extension beyond the realm of simple fabrics, through the taste, skill and cunning of designers and makers. Take the one article of ladies' gossamer waterproof cloaks, for instance. It is quite true that those which are offered in our bazaars are very much cheaper than good ones could possibly be, and that they even "look a little better" than much superior articles. Prettier things, of their kind, it would hardly be possible to procure; but they do not wear well. Nine-tenths of the waterproof garments sold in our bazaars are quite unfit to wear, and are far from being really cheap at any price. Instead of being made with sewed seams, of properly vulcanized rubber-coated cloth, which has a strong, serviceable textile base beneath a waterproofing that is odorless, unaffected by temperature and capable of shielding the wearer perfectly, season after season, these well-named "gossamer" articles are defective in every requirement except that of "looking well." They are only gummed together at the seams, in most instances; they tear almost as readily as paper would; they become hard in winter and sticky in summer; they make the wearer smell like a box of "gum" shoes, because when not steam vulcanized they decompose, and even when they are new they are by no means impervious to water. It is not by any means pleasant to commend a foreign production as superior to an American article, but it is necessary to do so for the purpose of illustrative contrast in this connection. Every feature that the ideally perfect waterproof garment should present—not one of which distinguishes the American goods spoken of—is possessed by the famous "Mackintosh" goods made in England. Their seams are sewed, as well as cemented; their fabric is very strong, durable and equally soft and pliable under all conditions of heat and cold; they are odorless and their waterproofing is the best vulcanized, instead of being simply brushed or

daubed on as a cold solution, or paste supposably containing rubber, as is the process adopted for the making of the cheap American "gossamer" garments. There can be no question of the ability of American manufacturers to rival in excellence the work of any foreign houses, but unhappily their demonstration of that ability is scant by comparison with the ingenuity they display in meeting the requirement for "cheap" goods, such as the bazaars demand. Their tacit acknowledgment of the superiority of the English goods is seen in their ingenious colorable imitations of the name, which has come to be recognized the world over as a guarantee of standard excellence.

A HANDY CYCLOPEDIA.

The issue of the tenth volume of Alden's *Manifold Cyclopædia* challenges renewed commendation of the convenient shape and comprehensive character of this admirable enterprise. The present volume extends from *Cosmography* to *Debry*, contains about 640 pages and about 100 illustrations, handsomely printed and neatly bound in cloth, all for 50 cents! The *Manifold* is more comprehensive than any other cyclopædia except *Cassell's* (which costs several times as much), including an unabridged dictionary of the English language in addition to ordinary cyclopædia matter, and though many of the articles are necessarily brief, they are sufficiently full for practical people, and some articles are surprisingly extended—for instance, *Cotton* occupies 26 pages; *Creeds and Confessions*, 5 pages; *Cricket*, 4 pages; *Crusades*, 6 pages; *Darwin and Darwinian Theory*, 17 pages, and so on. It would be strange indeed if a cyclopædia of such great merit, published at a cost so surprisingly low, did not reach an enormous circulation. A specimen volume may be ordered and returned if not wanted, John B. Alden, publisher, New York, Chicago, Atlanta and San Francisco.

ANOTHER "ROYAL" LIE.

Advertising largely shows good business enterprise and always pays if the advertisements tell the truth, but when any concern resorts to gross misrepresentations by misquoting official reports, distorting facts, exaggerating the good qualities of its own manufacture and belittling its competitors, the public quickly sees through the scheme and leaves the goods which need such bolstering up severely alone. The *Royal Baking Powder Company* is again at its old tricks. By misquoting the report of the New Jersey State Board of Health, clumsy interpolations and wholesale garbling with quotations from worm-eaten chestnuts prepared in its own office years ago and crediting its own paid for advertisements to supposititious medical journals, it now seeks to make the public believe that there is but one wholesome baking powder made and that is the one that that company makes. We have over and over shown the falsity of these claims. There are some very poor baking powders made in this country, but there are very few which are not at least as good and wholesome as the *Royal Ammonia* filled, and there are many baking powders, cream of tartar as well as phosphate, whose makers do not have to resort to falsehoods to sell their powders which are vastly superior in every way to this *Royal*.

BUSINESS NOTES.

THE BEST.

"Here I am," as an Esterbrook Pen said when a customer asked the stationer for the best pen in his place.

HORSFORD'S ACID PHOSPHATE AS A NERVEINE.

Dr. F. de V. Hoard, Concordia, Kan., says: "I have used it personally, and am greatly pleased with its action as a nerveine."



Use
Without
Soap.

Tablespoonful of Pearlina to Pail of Water

And you have the best and quickest means of washing and cleaning. Directions for easy washing on every package.

Why is Pearlina so largely imitated?

Why do these imitators invariably select names ending in —INE? Why are they compelled to peddle their goods from house to house—use deception, falsehood, offer prizes, claim that their powders are as good as Pearlina, etc., etc.? This is why: PEARLINE is the best—never fails—never varies—has no equal—and is as harmless as the purest imported castile soap. Sold everywhere. Millions now use it.

Manufactured only by JAMES PYLE, New York.

CALIFORNIA

Fine Table
Wines

From our Celebra-
ted Orleans
Vineyard.

Grand Harbath & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD. New York, Agents.
C. JEVNE & CO., - - Chicago, Agents.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

CENTRALLY LOCATED.

Sturtevant House, Broadway, cor. 29th Street, N. Y.
American and European plans. Board \$3.00 to \$4.00
per day; rooms \$1.00 and upward.

Ask Grocers for our Patent Barley **CRYSTALS**,
a new, unrivalled Cereal Food, for Breakfast Tea
& Dessert. If not sold there, write us for free sam-
ples. **GLUTEN FLOUR** and **SPECIAL DIA-
BETIC FOOD** are invaluable waste-repairing
flours for Dyspepsia, Diabetes, Debility & Chil-
dren's Food. No bran; mainly free from starch.
For all family uses nothing equals our **HEALTH
FLOUR**. Send for circular offering 4 lbs. free.
FARWELL & RHINES, Props., Watertown, N.Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one
reads yesterday's paper. A monthly lives at least a
month, while a semi-monthly is fresh twice a month,
and its audience is not limited by geographical lines,
but the circulation is all over the United States and
Canada.

It contains matters of interest to everyone, especially
the ladies of the household, and is, therefore, sure of a
careful perusal. Our audiences are intelligent and of
the better classes, who have money to spend, and any
well worded advertisement in our columns, giving real
information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large
circulation and original matter cost money, and those
advertisers who desire to realize these benefits must
expect to pay reasonably for them.

Advertisements in our columns are permanent. Most
of our subscribers bind their numbers.

Our advertisements are set up in an attractive form,
sure to call the attention of the reader.

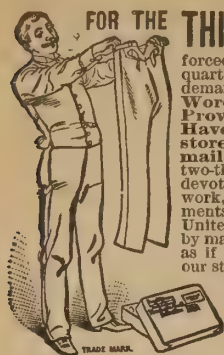
Anything that our readers want, or for which a de-
mand is to be created, not wholly of a local nature, will
pay to advertise with us.

We take only advertisements from legitimate houses
of really meritorious goods, and give them all the edi-
torial assistance they deserve; consequently our readers
knowing this, have confidence in advertisements con-
tained in our columns.

The fact that we have the best and largest houses in
every branch of trade advertising with us, and that they
always renew as their seasons arrive, proves beyond a
doubt that they have found the AMERICAN ANALYST a
good advertising medium. Why should not you?

GOOD ADVERTISING AGENT WANTED,

Address, ANALYST PUBLISHING CO., 19 Park Place, N. Y.



FOR THE THIRD TIME

in our history we have been forced to move into larger quarters to keep up with the demand from our New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade. We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the famous Custom-made Plymouth Rock \$3 Pants, first, send 6 cents, for which we will mail you 20 sample self-measurement blanks, and linen tape measure, provided you MENTION THIS PAPER, or if you cannot reach us, tell us about the color preferred, with waist, inside leg, and hip measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. Remember, also, that we make to your order, Full Suits, \$13.25, Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES.—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutic agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, ONLY THREE possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron Quinine, and Strychnia.
MALTINE with Alternatives.	MALTINE Ferrated.
MALTINE with Cod Liver Oil.	MALTO-YERBINE.
MALTINE with Hypophosphites.	MALTO-YIBURNIN.
MALTINE with Peptones.	MALTINE with Cascara-Sagrada.
MALTINE with Pepsin and Pancreatine.	

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

34 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with advertisers, please mention the AMERICAN ANALYST



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.



GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK. WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS.

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS

GORDON & DILWORTH 563 & 565

TABLE DELICACIES

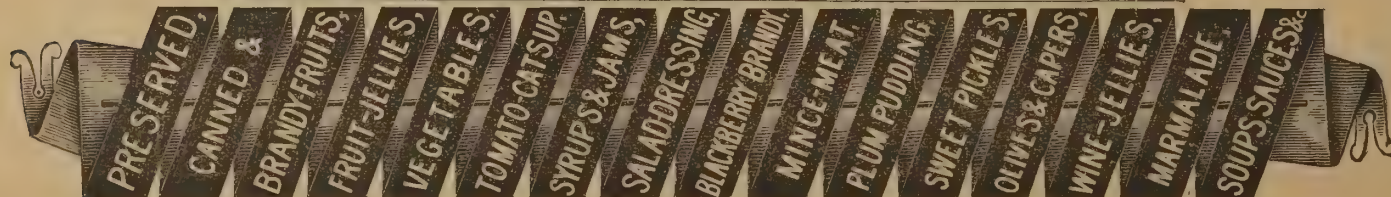
GREENWICH ST. NEW YORK

OLIVES, CAPERS, SALAD, MINCE MEAT, PLUM PUDDING, &c.

CHOICE OF DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism, Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

2 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

75 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES

Beadleston & Woerz
291 W. 10th St New York.

Orders by Postal Card
promptly attended to.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	WITH PUBLISH- ER'S AND PRICE. ANALYST.	
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association.....	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal.....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		
Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal.....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly).....	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.

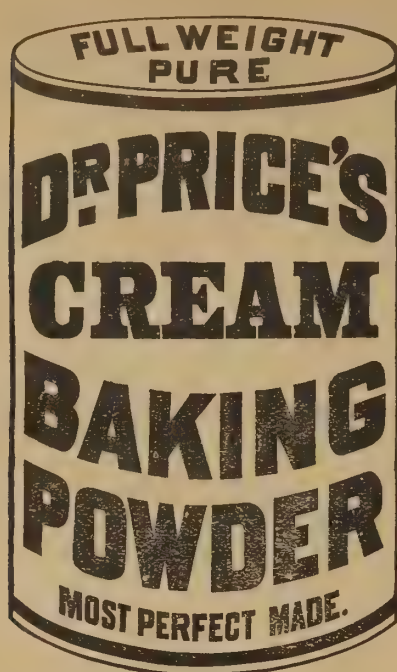


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.
PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

**DEAN'S PATENT
ARDENTER MUSTARD.**

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
 North Moore Street, New York.

COLDEN'S
 ORIGINAL LABEL:
 "Colden's Liebig's Liquid Extract of
 Beef and Tonic Invigorator."
LIQUID
BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
 ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
 Essentially Different from all other Beef Tonics.
 Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel oil, soluble Citrate of Iron, 'inchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D. F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already applied) to order it. In prescribing this preparation physicians would be particular to mention "COLDEN'S" viz: "EXT. AKNIS. FL. COMP. (COLDEN). It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 14.

NEW YORK, THURSDAY, APRIL 4, 1889.

WHOLE No. 110.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - - \$1 per year.
Single Copies, - - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Adulteration in England.....	160
Adulteration in New Jersey.....	158
American Beef Tea.....	162
Counterfeit Presentments.....	160
Domestic Dietetics.....	161
Do You Catch the Idea?.....	161
English Servants.....	159
Editorials.....	157
A Butter Scheme; A Voice from the Interior; French Safeguards for Food; Comfort and Health in the Can; A Weak Misstatement; Recognizing the Truth; A Large Industry.	
Health and Altitude.....	158
Sleeping by Compass.....	160

A BUTTER SCHEME.

The Dairy Commissioners of this State modestly request the appropriation of \$100,000 for the maintenance of themselves and the dairy laws during the coming year. They state as their chief argument that the dairy interests have been benefitted by "not less than \$3,000,000 annually." We heartily indorse the opinion of the *Bulletin* that such an unselfish request ought not to pass unnoticed. Without doubt, however, the selfish butter consumer, who unknowingly contributes his share to the \$3,000,000 additional put into dairymen's pockets, will, in his usual parsimonious spirit, think the dairy trade could better pay this \$100,000 protection (persecution) fund than himself. He cannot see why, if an appropriation of half what is now asked for will yield \$3,000,000, the dairy trade itself should not contribute the whole amount, considering they get all the "benefit" at his expense. He is apt to think the Dairy Commission's friends have made a rather awkward argument against their cause, instead of in favor of it. Why the poor butter consumer should pay a tax to put up the price upon himself is hard to understand, unless that he is made to be humbugged—if not by oleo, then by butter.

A VOICE FROM THE INTERIOR.

The *American Analyst* professes to have discovered warm admirers of Western dressed beef among the hotel-keepers of New York. That paper should be given a leather medal for its discovery. The keepers of hotels who would not praise an article that added to their profits, even though the article were of an inferior quality, are very rare birds. A number of restaurant keepers were recently arrested and fined for giving their customers oleomargarine in lieu of genuine butter. We suppose there would be no difficulty in securing from these convicted frauds an indorsement of the tabooed oleo. But that indorsement would not demonstrate its qualities and worth, nor does the alleged preference for Western dressed beef on the part of certain hotel-keepers prove that it is superior to home dressed beef or that it is equal to it. The testimony must have been furnished by those who are more interested in securing "cheap" beef than they are in obtaining "good" beef. The Western dressed beef men must be hard up for indorsements or they wouldn't publish such stuff.

The above is from the *Butchers' Record*, a bob veal circular emitted in Allegheny, Pa., and committed to the task of injuring the retail meat business through unconstitutional legislation professedly designed for its protection. It is a fair sample of the argumentative infelicity that characterizes the whole of the class of obstructionists to which the *Record* belongs. In their blind eagerness to denounce an enterprise the success of which has turned them green with envy, they fling their mud broadcast with refreshing indifference as to whom they may bespatter by the way. We would venture the suggestion, however, and we do so merely in the spirit of friendly caution, that attacks like the foregoing upon local interests savor of bad taste, to say nothing of their exceeding poor policy from a business point of view. That the Allegheny restaurant butter is inferior to average oleomargarine is easily credible, for the same relationship between these articles exists in many other places besides that interesting Pittsburgh suburb. But it is open to question whether the managers of these establishments entertain any higher regard for the *Record* for dragging them so ruthlessly into the discussion, in order to give point to an argument of its own, and thereby exposing their secret methods of domestic economy. The suggestion of the "ill bird" and its nest is trite, but in this instance entirely justifiable despite its antiquity. The *Record's* fling at the New York hotel-keepers is another illustration of the fatuousness which the provincial editor displays when he attempts to grapple with themes outside the range of his knowledge or experience. It is amusing to fancy the proprietors of our metropolitan hotels—the Windsor, the Buckingham, the Hoffman House, the Fifth Avenue, or any one of the half a hundred similar establishments which this city possesses—seeking to increase his profits by feeding his guests with inferior material, meat or anything else. The fact is, the Allegheny system, judging from the *Record*, is wholly different from that pursued in enterprising communities. Here the best market products of the whole continent are garnered by our hotel caterers with an emphatic disregard of cost, and nothing short of the very best will attract even their momentary consideration. The last source of profit they

aim at is economy in the conduct of their dining rooms. Those skilled purchasers give the steady preference to Western dressed beef, for the simple reason that their customers know its quality and insist upon having it set before them. And the same thing applies in all Eastern cities. Perhaps, however, our esteemed contemporary knows more than his language implies, and in thus allowing his spleen to override his judgment, has acted only in obedience to his employers' instructions. For what the fraternity he represents is seeking to accomplish in several States is to "corner" the local markets for their own benefit, or, as the *Chicago Commercial Bulletin* puts it, to organize "State trusts for increasing the prices of meat." The scheme, however, will not work. It has already become manifest that the public will not stand it. We waive our claim to the leather medal. Let it be awarded to the Allegheny *Record*, which has fairly earned it, and we presume the good people of that town will heartily endorse our suggestion to bestow the decoration where it so appropriately belongs.

FRENCH SAFEGUARDS FOR FOOD.

The French Government laws regarding coloring matters employed in food products, and the papers and wrappers with which they are covered, expressly forbid the use of all copper, lead, baryta, arsenic and mercury colors. All fuchsine, aniline, nitrous matter, such as naphthaline and Victoria yellow; also tropeoline, xyldine red, Cassel yellow, Turner's yellow, Paris yellow, Naples yellow, Cologne yellow, Scheele's green, Schweinfurt green, vermillion and Lyons blue. The same laws also prohibit the use of tin cans soldered on the inside, or any cans made of anything but tinned iron. The use of copper vessels or any copper salts in the preserving of food products is also prohibited.

COMFORT AND HEALTH IN THE CAN.

A price list issued by a large grocery house, and now lying before us, shows an aggregate of nearly 350 different canned fish, meats, vegetables and fruits. These supplies come from almost every part of the United States and the West Indies. They are put up in the best and freshest condition at the place of production, in seasons of plenty; and consequently furnish a fresher and more wholesome article of food than similar but uncanned products after having been carried for miles and exposed for hours in shops or perambulating peddler's wagons. The price also is such that what were once luxuries only attainable by the rich and extravagant are now within the reach of the poorest. Go where you will from one end of the world to the other, the empty cans on every rubbish heap corroborate this statement. Indeed, these empty cans have become so plentiful that a large and profitable business has been done in gathering them, washing off the labels for the pulp, melting the tinning and solder for solder, and rolling the sheet iron for trunk corners, ferrules and sash weights. A decidedly beneficial effect on human health

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

and the duration of life has also been caused by the greater variety in diet offered by this extensive canning in the advantages thus offered over the old monotonous winter diet of salt fish, pork and potatoes, hog and hominy, or the hard tack and salt junk of the seaman. No real injury has ever been done by canned goods. In the few instances where we have heard of alleged canned goods poisoning, it was always found to be due to the ignorance of the consumer in assuming that because foods were canned they were exempt from decomposition.

A WEAK MISSTATEMENT.

The young man of the *World*, or as the *Butchers' Advocate* flatteringly calls it, "the great New York *World*," has again opened his mouth, and, as usual, when that youth speaks of anything but base ball or a prize fight, has put his foot in it. In speaking of Senator Cantor's bill to prohibit the sale of Western dressed beef in this city, which is really the object of the bill, concealed under the flimsy disguise of sanitary protection, attention is called, in the usual communist style, to the monopolists and cornerers of the poor man's food as opposed to the bill. Then the rest of the article is devoted to a series of the most barefaced lies that have ever disgraced the columns of a metropolitan newspaper. These gross misrepresentations are too preposterous to deserve even a serious answer. The *World*, which claims to be a well-informed and fairly conducted newspaper, states editorially that in Chicago cattle are killed as soon as they arrive, without rest or inspection, while in New York cattle are subject to inspection both before and after killing. It further claims that all Chicago meat is frozen. These assertions, compared with the inconsistency of the *World's* title of the bill with its real title, are sufficient to show the actual purpose of the young man. Better arguments than these will be necessary to bamboozle the people or to prove the *World's* title to the claim of being the people's paper.

RECOGNIZING THE TRUTH.

It is only natural that when the cattle-raising community of the West bring their reasoning faculties to bear upon the efforts of the Eastern butchers to monopolize the beef markets of the country, they should have their eyes opened to the character of the trick of which they are the intended victims. The truth of this is clearly shown in the editorial which we quote below from the *Stock Growers' Journal*, of Miles City, Montana, the old established and leading organ of the extensive cattle interests of Eastern Montana, extending north and south from the British possessions to Wyoming, and east and west from the Rocky Mountains to the

Dakota line. The *Journal* has hitherto been inclined to side with the obstructionists, but it discovers that it has been toying with a boomerang. The following article appeared in its issue of March 23:

"The inspection bills have not passed more than one or two legislatures of the States and Territories. The commonwealth's attorney of New Mexico has advised the beef inspector of Santa Fe County that the new law is unconstitutional. While our Montana beef leads the world, we have not the grounds of complaint which may obtain with the producers of the Southwest, but we have considered the matter seriously and we fail to see how the inspection laws will aid the producers in the States, even if they should destroy the Big Four, which we may assume as detrimental to their interests. If all the States should require that all beef and pork sold within a State shall be inspected alive, then it follows that all dressed beef and pork must be sold where it is killed. And the products of the Great Falls dressed beef company in this territory cannot be sold outside of Montana, and dressed beef and similar industries except on a picayune scale are killed. The inspection laws are a sort of boomerang which hit the flinger. If the Big Four or any other combination plot to destroy, and succeed in destroying, the business of others by any other than lawful and legitimate measures, then the remedy is the criminal law. It is claimed, and perhaps correctly, that the Armour & Co. people do conspire to unlawfully fix prices of food; if so, the remedy is in the criminal law."

A LARGE INDUSTRY.

The State of Maryland leads all the rest in canning fruits, vegetables and oysters. It is estimated that one-fifth of the people in the State are interested directly or indirectly in the canned goods business. There are 488 canning houses, employing 25,000 hands, who receive \$10,500,000 annually in wages. There are 1,500 additional men employed as can makers. Baltimore has several immense establishments which can fruits in summer and oysters in winter.

ADULTERATION IN NEW JERSEY.

THE IMPORTANCE OF INTERESTING THE PUBLIC IN THE MATTER OF PURE FOOD.

Dr. W. K. Newton, the Dairy Commissioner for New Jersey, in a recent address gave some valuable information on the subject of adulteration of foods in New Jersey, so far as these came within his official observation. He said among other things: "All of the articles examined were bought at retail at the usual place of business throughout the State, and the results obtained represents faithfully the condition of the food supplied to the consumer in this State. From this showing it does seem necessary that the public should be protected in some way from the frauds practiced by these food adulterators, and it is possible for every dealer in food supplies in this State to purchase absolutely pure articles, and build up a trade in that line. It seems to me that one of the best cards that the Grocers' Association could play to catch the trade of the community is to indorse the efforts made to insure the purity of the food supplied, and also to insure the customer against adulterations by showing that they deal in nothing but absolutely pure articles. We examined the much discussed article of American canned goods, tomatoes, corn, etc. We found out that out of fifty-five different sorts of canned goods that we examined, fifty-four were absolutely pure, did not contain any lead or other poisonous ingredient, and only one could be looked upon as suspicious, and that was a can of asparagus which contained tin, undoubtedly from the can. We examined other samples, and found that canned asparagus very often contains large quantities of tin; this may be due to the method of canning or to a peculiar acid in the asparagus; but as a rule American canned goods are perfectly reliable. Of imported canned goods only sixteen were examined, and they were standard brands; five of them pure, and all of them contained copper in greater or less quantities, this being added purposely to

make the article appear better than it really was, and in the case of peas of a green color. Twenty-four samples of ground coffee were bought, the agent going into the stores asking for ground coffee and paying the regular price; sixteen of these were adulterated and eight were pure. The adulterations are roasted and ground peas, and chicory, which, of course, being largely used by the people themselves, is not always added fraudulently; ground rye and ground wheat. In one case we found cocoanut shell. One sample of coffee was examined which contained no coffee at all. It was burnt molasses and some Indian corn ground. Twenty-eight samples of black pepper were analyzed, twenty-two of which were adulterated and six pure. I will group the other spices together. We examined white pepper, four samples only; mustard, forty-one were examined and forty adulterated; cinnamon, twenty examined and thirteen adulterated; cloves, thirteen examined and ten adulterated; ginger, eleven examined and three adulterated; nutmeg, two examined, both pure. I supposed when I started into the investigation that it was not possible to buy pure spice, but I find there are two or three dealers in New York and two or three in Philadelphia who never put up anything under their own name but pure spices. Of course the prices are two or three cents per pound more than those of adulterated goods, but it is perfectly easy to obtain them, and probably, if the trade advertised a little more, you might have an exclusive trade in perfectly pure articles. Black pepper is adulterated with pepper hulls, though the fashionable ingredient now for adulterating is roasted and ground cocoanut shell. I suppose the grinders found, some years ago, that, instead of allowing the cocoanut men to throw the shells away in the garbage barrels, they could buy them and work them up into pepper, and thus make considerable. The cocoanut shells are ground about as fine as black pepper, and then roasted until they are nearly black pepper. This was developed in the test of black pepper. In some of the samples that we obtained there was no black pepper at all; there were buckwheat hulls and ground cocoanut shells mixed together, with a little cayenne pepper in. White pepper there is very little demand for, and that is practically confined to flavoring an inferior article. The fashionable adulterant in this case is perils seeds—a seed which was used for medicine about 250 years ago. It has been rarely used since, but as some men in New York had a couple of cargoes of it on hand, and did not know what to do with it or how to work it off, they sold it to the spice men. There were forty samples of adulterated mustard, out of forty-one examined, and I might account for that by this fact, there are only one or two brands of mustard sold in the United States that are practically pure. Nearly all the grinders use large quantities of flour that extracts the oil which they sell and coloring matter to bring it up to the color of true cinnamon. Cloves are, as you know, a very expensive article, and the adulteration is very great. The chief adulterations are the same as the others—buckwheat hulls, middlings, etc., and also clove stems. There does not seem any reason why ginger should be adulterated, but, just for the sake of adulteration I suppose, they carry it on. It is a very cheap article, and some I have had prepared in the ground state, bought in the ordinary course of business, I think from a mill in Brooklyn, contained no ginger at all. It was ship biscuit roasted to the proper color, and flavored with a little cayenne pepper. There is very little demand for nutmeg, and we only purchased two samples, which were bought for the purpose of investigation. Molasses is sometimes adulterated with salts of tin. These are added to make the article appear better than it is, but it is going out of practice. The tin is used in one process of manufacture to improve the appearance of the article. Of twelve samples of vinegar examined, eleven were acid vinegars, and did not come up to the standard as required by the law. Of seven samples of pickles bought in stores, two were coppered, and the rest of them were in very good condition.

ENGLISH SERVANTS.

GRADES AND WAGES OF THE DOMESTICS IN A FASHIONABLE HOUSEHOLD.

In England there is as much difference in the rank of the several servants as there is between their different employers. The autocrat of the servants' department, when there is no house steward, is the butler. The rest of the household address him as "Mr.," and he preserves order among the men and exercises authority over all. The housekeeper is the head of the women servants, and she is "Mrs." to the maids under her control. As a rule a dignified woman of a certain (or rather uncertain) age, she takes the onus of the detail work off the mistress' hands, and sees that all orders are carried out. When no housekeeper is kept the cook is the female head of the servants' department, and takes the place of the housekeeper. The servants are divided into two grades, the upper and lower. The upper strata includes the house steward or butler, or both; the housekeeper, or, if none, the cook, and the lady's maids. When a housekeeper is kept the cook generally belongs to the lower level, and is the head of that division. A valet belongs to the upper house. In the lower house, or the House of Commons, as it may be called, are the cooks, housemaids, kitchen maids, footmen, coachman and grooms. The line between the two grades is as strictly drawn as between the lower and upper classes. The upper servants take all their meals, excepting dinner, in a special room, which usually goes by the name of the "steward's room;" the lower servants eat all their meals in the servants' hall, excepting tea, which the maids eat in the "still room." In 99 houses out of 100 all the servants eat their meat for dinner in the servants' hall. The lower servants assemble promptly on the stroke of the clock, and stand at their places at the table. The upper servants meet in the steward's room, the head domestic leads the way, and they troop into the servants' hall. The lower servants remain standing until the upper are seated, when the former sit down themselves. No conversation at all is allowed while the joint is being discussed. When the meat course is finished the whole table rises, the upper servants march out in the strict order of precedence they entered, and adjourn to the steward's room, where they enjoy their pudding and dessert. The lower servants regale themselves on cheese, and both can then talk to their hearts' content. In the steward's room strict precedence is observed. The butler sits at the head of the table, and the housekeeper or cook at the bottom. Visitors' servants take rank according to the rank of their master and mistress. The table of precedence, as laid down by Burke, is more strictly observed downstairs than it is upstairs. The maid of the lady taken into dinner by the master of the house is taken into supper by the butler, the rest following in like order. A visitor's footman consorts with the lower division, but if he is dignified by the name of valet, or is the butler, he is housed in the steward's room and enjoys pudding every day, which the lower set get only twice a week. Upper servants are particular how they address each other, the prefix Miss, Mrs., Mr. being *always de rigueur*. Among the lower servants dignity is not of so much importance as speed, and to save time and prevent mistakes servants are called by their masters' names. "Marlborough, there's your man's bell ringing," would cause a frown to sully the ducal brow if he heard it, but it would be heard only in the sanctity of the servants' domain. The number of servants in an ordinary English country house is very large. At one house especial care was taken to find out how many there were, and one seemed to tumble over them at every step. The following is the list: One butler, one housekeeper, one cook, two lady's maids, two footmen, one head housemaid, two under housemaids, two laundry maids, one still room maid, one kitchen maid and two pages, who acknowledge every one as their master. In the stable were one coachman, one

groom and two strappers. In the garden a head gardener, fourteen men and boys, one gasman, one head gamekeeper, and three under gamekeepers. The house was not a very large one nor the owner a very rich man. The house, including the family (which consisted of the father and mother and two daughters), would hold sixteen people, but as a rule the number they set down to dinner was eight to ten, and to wait on these ten people and administer to their comfort and pleasure it took no less than forty servants. The wages in England are not what they are here. A butler gets £50 a year; a cook, £30 to £40; a lady's maid, £20 to £30; footmen receive £18 to £25; housemaids, £10 to £20; and kitchen maids, £8 to £12. A coachman gets from £30 to £50; grooms, £20 to £30; and strappers, £12 to £20, according to age. A head gardener, from £70 to £150 and house and coals; and undermen from 15s. to £1 a week, and they feed themselves. Head gamekeepers receive about £70 to £100, with a house provided, and under gamekeepers about the same as under gardeners. All house servants, however, in addition to the above scale, get "beer and washing" money. The upper servants get two shillings to three-and-sixpence a week for beer, and from eighteen pence to three shillings for washing money. The lower servants get about half those rates, the lowest being one shilling a week for beer and one shilling for washing. Of course a big estate has a pay roll as long as that of a factory. The head man is the agent, who has the entire control of the property. Next to him is the bailiff, who looks after the home farm and the cattle. The others are undermen of different kinds. A large estate will have half a dozen accountants to keep the books correctly. There will be a head forester and half a dozen men under him, a master sawyer and four or five men to cut posts, make gates, etc. Carpenters and glaziers must be paid to repair damages, and two or three are kept also. Paint has to be renewed every year, and at least three are hard at work all the year round. Woods require proper management, and half a dozen are not too many. A river will take several men to watch that it be not poached, and the home farm must be well looked after, and about two men to every thirty or forty acres are required. Roads have to be repaired, and a head man and half a score of others to break stone, mend and fill holes, clear drains, and do things of a kindred nature, are a necessity. The head gamekeeper on a large estate will want about fifteen men to keep off poachers, and the lodges must have proper people in them. These and numbers more help to drain the pockets of the large landed proprietor.

HEALTH AND ALTITUDE.

THE BENEFIT OF MOUNTAIN AIR TO SEEKERS OF HEALTH.

An important climatic element of any country exists in the character of its surface. Its ability to absorb and retain moisture governs in large share its temperature, and the temperature of the soil in a marked degree governs the temperature of the air. They are usually alike. A loose, porous soil covered by a heavy tree growth furnishes the best surface for equalization of evaporation and uniformity of temperature. The earth's surface is charged with negative and the overlying atmosphere with positive electricity. The latter is much more marked in elevated regions broken in sharp mountain ranges. This produces in regions of considerable elevation, during the heated season, thunder storms of great intensity. A mountain or elevated climate is advantageous to a variety of diseases influenced by a change of circulation. The lessening of the atmospheric pressure causes the diminution of the blood flow in the brain and central organs, and increases it in the cutaneous surfaces. Imperfect nutrition, as exhibited in anæmia, indigestion, loss of appetite, etc., is greatly benefited by the pure, bracing air and exercise. Neuralgia, nervous prostration, loss

of sleep, headache, hypochondria, etc., lessen under the stimulus of a better nerve nutrition. The improved circulation and nutrition of the respiratory organs give relief in most cases of asthma dependent upon changes of the bronchial mucous membrane as well as upon innervation. Bronchial inflammations are usually benefited, and the increased respiratory functions lessens the conditions favoring consumption; and often the disease itself, in its incipency, is arrested. The invalid suffering from extreme weakness induced by any cause had better not attempt a residence in an elevated region unless by advice of a competent physician, for while an elevated climate is stimulating and has a powerful therapeutic action on most functions, it requires a certain integrity and resisting power, which the patient may not possess. Organic diseases of the heart and great vessels are, almost without exception, made worse by the overwork demanded of the circulatory apparatus. Perhaps the most important of all conditions to be considered is that of the mental state of the invalid when directed to any locality for the benefit of his health. They should not only be guarded against extremes of exposure, exercise, care as to diet, etc., but above all be given, as far as possible, a bright, hopeful, happy state of mind. All these prerequisites to improvement are so essential that the invalid does well to place himself under the care of a resident physician. Occupation to direct the attention from self should, as far as possible, be obtained. The sportsman, finds recreative pleasure in the rod and gun, the botanist in the wide diversification of plant life, the geologist and mineralogist in the ever-interesting outcropping minerals about him. "The bliss of a spirit is action," is the unwritten law of life, and he who seeks the renewal of its pulses must come under its universal requirement. To the invalid resting under condemnation from the violation of nature's laws, a wise selection of residence in mountain regions holds out a hope often denied to the dweller in the cities of the plain. Everywhere mountains and streams, cliffs and valleys, gaps and glens, add charm to the scene and inspire delight to the lover of the beautiful and sublime, and while health is borne upon the breeze, beauty and grandeur fill the soul.

HOT CLIMATE.—It was found that the loss by evaporation from a large tank for supplying the city of Nagpur with water was in the hottest season two and a half times as great as the quantity supplied for consumption.

A SANITARY PARADISE.—We are not apt to look to South America for evidence of the greatest progress in science or art, and yet it is said that the sewerage system which is now being conducted in Buenos Ayres is the most perfect in the world. Measures have been taken which will result in putting every house in the city in perfect sanitary condition within three years. Sanitarians will watch the result of this stupendous undertaking with great interest, and will be able to deduce from it many valuable practical lessons.

NOVEL USE FOR THE POTATO.—That there never is any certainty as to what base uses the most treasured of our possessions may be put to at one time or another, has just been freshly demonstrated. *L'Industrie Parisienne* tells us that our old and tried friend, the succulent potato, is being utilized in a very strange manner. Our contemporary states that there is a Parisian laundryman who has entirely discarded the use of soaps, sodas, bleaching-powders, and all other varieties of detergents in the pursuit of his business avocations. He merely uses plenty of water (hard or soft, from well or river) and boiled potatoes! The plan is said to be eminently successful, and without employing any kind of alkali, he is able to "get up" with credit to his establishment, the most soiled of linens, cottons, or woollens. When poor Parmentier introduced the strange American root to his *gourmet* compatriots, he little thought that the delicious and useful tuber would come to be used in Parisian laundries for the cleansing of dirty linen instead of filling hungry stomachs. The information is certainly of a startling nature, but our contemporary, *L'Industrie Parisienne*, is too serious to attempt to mystify its readers, unless, indeed, it has been mystified itself.—*The Caterer*.

COUNTERFEIT PRESENTMENTS.

THE TRUE INWARDNESS OF THE CHEAP PORTRAIT BUSINESS.

The next best thing to the actual presence of those we love is to possess a good likeness of their forms and features, whether it be a costly and artistic oil painting, a photograph, ambrotype, tin-type or even a paper silhouette; if it is the best that can be obtained, we are pleased to have even that memorial. For the gratification of this universal desire, a business has grown up throughout the United States of reproducing pictures, which, while praiseworthy and deserving of every encouragement when conducted honestly and fairly, has, in the hands of a class of expert tricksters, degenerated into a mean and contemptible swindle. It is customary with the AMERICAN ANALYST, when it discovers a fraud designed to victimize the public, to investigate it and spread the result before our readers, that being forewarned they may be forearmed. This picture fraud business may be briefly summarized as follows: Portraits, of course, comprise all reproductions of the human form, in whatever manner made and upon whatever material. A large class are those produced by photography, which means the obtaining of a likeness by the action of light on chemically prepared plates, from which copies are printed on chemically prepared paper. To succeed in getting a good likeness, much, of course, depends upon the artistic taste and the technical skill of the operator. But with this method of obtaining likenesses we have not so much to do as with the different kinds of enlarged portraits, now so common as well as fashionable. The simplest way of enlarging a carte de visite or an imperial is by what is known as the solar print process. In this process a negative is secured on glass, as in the original photographing, and from this negative an enlarged solar print on paper is produced. Photography makes all defects more apparent, similar to the revelations of the microscope, hence it becomes necessary, after the solar print has been made, to finish the portrait and cover its defects. This is accomplished in four ways, by tracing over and embellishing the work with crayon, pastel, water colors or india ink. Crayon and pastel work must be done by hand, but water colors and india ink can be applied with the air brush, which is a process of blowing the colors through a tube worked by a pedal bellows, on the principle of an atomizer. As work of this kind can be done rapidly and evenly, it is very deceptive to the inexperienced on account of its soft and well finished appearance; but in reality it is not lasting. The air brush is also used with the indelible solar process, in which case it is far more expensive, but also more lasting. It is, however, never considered as artistic as hand work is. The solar print process, in combination with other mechanical aids, is also used to a greater or less extent in the preparation of outlines, to be afterwards worked up by hand. It is needless to say that the most valuable as well as the most artistic portraits are those which are produced by free-hand drawing, and here, of course, everything depends upon the skill of the artist. A photographic reprint is always a copy of the original picture, and reproduces the likeness with all its merits as well as its defects. To enhance the former and hide the latter, and yet adhere to the likeness, is what demands artistic skill. In addition to these processes, oil painting on canvas and miniature painting wherein also the outlines can be made by photography, must not be overlooked. As may be readily understood, where there is such a wide latitude between high artistic talent and mere mechanical construction, a door is open for much deception, and of this we will now proceed to speak. The most common form of swindling in this direction is the cheap crayon business. This is generally done by persons having a smattering knowledge of the photograph business, or even no knowledge at all, and by means of catching advertisements, whereby they allure people to their so-called studios. They generally advertise highly

artistic crayons, the price of which is usually only five dollars. The victims, when their attention is once attracted, are shown some specimen copies on exhibition in the studio, and an effort is made to exact a larger price out of them. If this effort does not succeed, the order is taken at five dollars. The carte de visite is printed by the cheapest process, costing about fifty or seventy-five cents, and just touched up enough by some impecunious art student to look like a crayon and strengthen the likeness. Such portraits soon fade and look streaked. This student receives about one dollar for the work, and thus for a very poor and perishable imitation crayon, costing about two dollars and a half, the victim pays five dollars. From this five dollar fraud the price goes up as high as twenty-five dollars, without, however, much, if any, improvement in the work. We do not wish to be understood as including in our warning the indelible solar process, because this is frequently employed by first-class artists. Nevertheless, we advise the reader in every case to obtain a free-hand drawing, if possible. Art students, and sometimes even competent artists, though reluctant to do such slop-work for these crayon canvassers, are in a measure dependent upon the latter, either because they cannot spare the time necessary to wait upon private customers, or they have not their studios so located as to receive visitors, or, not being extensively acquainted, they could not secure subjects for themselves. The most unscrupulous of the crayon peddlers are those who travel about the country. They generally supply themselves with specimens made for them by some qualified art student, and then boldly dub themselves artists, taking orders at as large prices as possible, which they cause to be executed by some of their impecunious dependents. One of their common tricks is to get a good artist to make their samples and perhaps to execute one or two of the first orders they take in a neighborhood, which costs them a little more; but they soon pay themselves for this by having all their other work done by the cheaper workmen. There is not a finer or more artistic and lasting portrait than the crayon, when well done, and any first-class photographer can recommend a customer to a competent artist who will do his work reasonably and, in the end, cheaper than these peddlers. It will certainly be better work.

ADULTERATION IN ENGLAND.

HOW JOHN BULL COLORS HIS SAUCES AND MANUFACTURES HIS FRUITS.

Bottled fruits are at times colored green by the addition of copper in the form of the sulphate ("bluestone"). A knife blade immersed in the juice of the fruit in question will rapidly become coated with a bright deposit of metallic copper. The French have a simple and harmless plan of giving an apparent green color to their preserved fruits and olives. The bottles are made of bright green glass. Sauces, potted meats and fish are constantly adulterated, *i. e.*, colored by means of Armenian bole. This is done partly from custom, but chiefly to conceal the dirty appearance of the pastes and sauces. The British public will have its anchovy sauce red. The uncolored sauce is unsalable, though far superior to the red abomination, the filth being removed from the former, while in the latter it is merely concealed by the Armenian bole. Jams are adulterated by the admixture of inferior fruits. For instance, gooseberries are often added to raspberry jam. Marmalades frequently contain apple pulp, or even turnips. Coloring matter and artificial flavorings are freely used. An ingenious industry goes on largely in London which is wholly unsuspected by the public. Raspberries, oranges and other fruits are purchased by wholesale chemists and the juice extracted. Then the pulp is bought at a low price by the manufacturers of cheap jams for flavoring and placed upon the market as "fine new season jam" or marmalade. Mustard and coffee are, as a rule, preferred by the English consumer in an

adulterated state. Many people object to the color of genuine mustard; and consider that the addition of chicory imparts an agreeable flavor to their coffee. Pepper used to be extensively adulterated. Most people have heard of the American "nutmegs" made of wood," but the artificial peppercorn is a British invention. Whole pepper has now become the fashion, and the artificial peppercorn will doubtless soon come to the front again. Spices sold in a powder form are naturally largely adulterated. The business of the drug-grinder offers large temptations to the adulterator.—*The Saturday Review.*

SLEEPING BY COMPASS.

SHALL WE SLEEP WITH OUR HEADS TO THE EQUATOR OR THE NORTH POLE?

The sleep-with-your-head-to-the-north idea had quite a run a few years ago, and there are still a good many people who, perhaps rather from force of habit than otherwise, range their beds so that they stand in line with the parallels of longitude, and sleep with their "feet to the equator," or as near as they can get to it. It isn't everybody's feet that will reach there. Habits are strong in such a matter. But the "Listener" has just received, by way of a Washington Territory paper, an account of a brand-new theory as to the proper way to sleep. The editor of this Western paper relates that he was greatly troubled with sleeplessness and headache at night. No course of procedure that he could resort to brought him any relief. Finally he bethought himself that it always made him ill, when he travelled on the railroad, if he rode backward, or if he lay in a sleeping car berth with his head to the engine; and that, on the other hand, if he sat facing the engine, or slept in his berth with his feet to the engine, he slept well. The reflection led him to apply his experience to the earth itself, which is a sort of great railroad car, whirling along from west to east at the rate of about a thousand miles an hour. He proceeded to range his bed so that when he lay upon it his head was to the west and his feet to the east, and after that he had no more restlessness or headache, but slept profoundly and sweetly, with his "feet to the engine." He commends his discovery to all sleepless and nervous people, and does not doubt that he has hit upon a bit of knowledge which will prove infinitely valuable to human kind. But what about the people who would just as lief ride backwards on railroad trains, and who sleep better with their heads to the engines of trains and the bows of vessels? This may be an eccentricity, but a friend of the "Listener's" once strongly advised him always to sleep when travelling with his head to the engine or the bow, and gave some very plausible reasons for his philosophy. "The movement of a train," he said, "tends to force your blood in the opposite direction from the way the train is going; that is to say, being liquid and under the influence in some degree of the forces of gravitation and inertia, the blood is not carried forward so fast as the solid parts of the body, and tends to collect in the end which is for the time being toward the rear. Now if your feet are toward the engine, the blood will collect in your head and give you unpleasant dreams and sleeplessness. Have the blood in your feet, on the other hand, and you sleep all the better for having it there." "But," asked the "Listener," "does not your being upon a car constitute, as it were, a new centre of motion, and every part of the body being carried along as fast as every other part, prevent any collecting of the blood in the extremity which is in the 'aft'?" "The fact that you are upon the train," replied the theorist, "does not prevent the force of gravitation from working independently of the train, and the principle of inertia certainly carries the blood toward your head every time the train starts. Try it with a spirit level, and you will see the bubble hug the aftermost end of the tube." Besides these advocates of the feet-to-the-engine theory and the head-to-the-engine

theory, there is still another class who follow the cross-wise theory, who never can sleep well on a steamer unless they get an athwartships berth, and who were full of rejoicing when a sleeping car was made which had berths running crosswise. Between all these conflicting parties the "Listener" cannot undertake to decide, but what he does know to a certainty is that the advocates of each theory sleep best in the position that they believe in, while the great mass of mankind who give no thought whatever to the matter sleep fairly well, on the average, whichever way they are put. All this inclines the "Listener" to believe that it is all a matter of notion, and that sleeplessness and wakefulness are due to quite other causes than the relative position of our bodies as to the poles and the equator or the engines of trains or the bows of ships. He is also much inclined to think that sleeplessness can be prevented, at least up to a certain point, or when there is no actual nervous disorder, by what may be called volitional composure. People who are given to intent thinking, and whose brains are actively at work all day, may think all night, not sleeping at all, if they will. And on the other hand, if their brains and nerves are in good condition, they may cease this active process of thought if they will; and if they do cease it, the chances are they fall asleep. The tumult of thought may return and return, but if upon each return it is composedly and resolutely put aside, the sleep will come.—"Listener," in *Boston Transcript*.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

April.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Anchovy, bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, rock-fish, salmon, smelt, whitefish, trout, sturgeon.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

ROAST OYSTERS.—Use large oysters; a few minutes before they are wanted put them on a gridiron over a moderate fire; when done they will open; remove them carefully from the fire so as not to lose the juice. Serve them hot on a napkin.

AFTER-DINNER CROUTONS.—Make a paste of two parts rich creamy cheese, one part butter, a little finely chopped parsley, and a dash of cayenne pepper. Cut bread into slices one-quarter of an inch thick; cut each slice into four small triangles; dry them in the oven slowly until they assume a delicate brownish tint; spread with the paste and serve.

TO BOIL ONIONS.—Peel medium-sized white onions and let them stand in cold water one hour; then put them into boiling water and boil fifteen minutes; pour out this water and put in more boiling water, and cook till soft; then pour off the water and put in a little milk; season with butter and salt, and let them cook in the milk about five minutes; thicken the gravy with a little flour and water. This way of cooking will take away the strong taste of the onions, and make them tender outside as well as inside.

BAKED CREAM FISH.—Trout and whitefish are best for this. For a fish weighing three or four pounds take one pint milk, one onion, one teaspoonful of mace, two

tablespoonfuls of butter, some powdered cracker, and a little of sifted flour; steam the fish; when done pick it up as fine as possible; season with salt and pepper; put it in a baking pan in layers, sprinkling each layer with a little flour; do not use too much flour; boil the onion and mace in the milk, add butter, and have this sauce ready to pour over fish when it is arranged in the dish; sprinkle the fine cracker with some butter over the top, and bake the whole in a slow oven for about an hour.

GENOA CAKE.—Cream a half pound of butter, and mix with it, by degrees, eight ounces of sugar, ten ounces of flour, half pound of Sultana raisins, two ounces of mixed peel, cut up small, and five well-beaten eggs; beat all well together for some minutes; have ready two ounces of almonds and one ounce of pistachio nuts, blanched and cut up; add them to the other ingredients, and, lastly, the grated rind of a lemon and one teaspoonful of baking powder; butter a tin, and line with buttered paper to project about one inch above the rim; pour in the mixture and bake at once in a cool oven for one and a half hours; sprinkle a few cut-up almonds on the top of the cake. If well made, this is a delicious cake.

RICE FRITTERS.—To half a pound of rice put two-thirds of a pint of water, boil it to a jelly; when cold, add to it eight eggs, a pint of cream, a little salt and nutmeg, and quarter of a pound of butter melted; mix well, adding the butter last, and working it only so much as will make the batter sufficiently thick. Fry them in lard, but employ as little as it is possible to fry them with.

CORN BREAD.—One large coffeecupful of dry, finely-bolted corn meal, one tablespoonful white sugar, a little salt, two tablespoonfuls Horsford's baking powder; sift thoroughly, then mix with one and one-half large coffeecupfuls of cold sweet milk or cold water, and add two well-beaten eggs. Bake immediately in a shallow pan, or for gem cakes in a gem pan.

TO PROTECT SILVER.—It is said that collodion dissolved in alcohol and applied with a soft brush will prevent silver from becoming tarnished.

ELECTRICAL HEAT INDICATORS.—Electric heat indicators, consisting of thermometers incased and protected by iron tubes, provided with platinum wires and connected to a system of electric bells and indicators on deck, are the latest invention for detecting spontaneous combustion among ship cargoes. Should any undue heat arise in any part of the cargo, the mercury in the thermometer will rise, make contact with the platinum wire and give an instantaneous alarm on deck, indicating at the same time the exact spot where the heat exists.

ARTIFICIAL LEATHER.—Dr. George Thenius, of Vienna, has a process for the manufacture of artificial leather from red beechwood. The best wood for the purpose is taken from 58 to 60 year old trees, cut in the Spring, which must be worked up immediately, bark peeled off, steamed, treated with chemicals in a kettle under pressure, and exposed to several more operations which the inventor does not mention, as he wants to have them patented. From the prepared wood strong and thin pieces are made by means of heavy pressure. The inventor states that a solid sole leather can be obtained, which he claims is superior to the animal leather in firmness and durability, and can be worked up in the same way as animal leather, nailed and sewed.

PHOTOGRAPHING BULLETS.—The plan of Mach, the Austrian chemist, for photographing bullets by electric light is to illumine the bullet by letting it break an electric current formed, but the velocity of the bullet must exceed that of sound, in order that the conditions of air before and behind the projectile can be shown. After various experiments he succeeded in his efforts to photograph projectiles fired by Wernall and Jurde guns, having respectively an initial velocity of 438 and 530 metres per second. The photographs obtained in this manner showed an air formation in front of the bullet having the form of a hyperbola, while behind it almost a vacuum was formed, in which, when the initial velocity was very great, there were some curious spiral motions. From the description given there appeared from these photographs to be a great similarity between the motion of a body through the water and that of a projectile through the air.

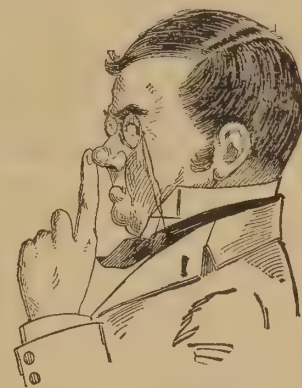
NEW MICROPHONE.—M. P. Colbere, of Berlin, has just patented a microphone which possesses some features of interest. A box moving on a vertical support is almost filled with carbon shaped in the form of a cup, which is filled with mercury. This is covered with a layer of powdered carbon, on which the diaphragm rests. This latter is a very thin carbon plate, the edges of which are fixed between two non-conducting rings. The diaphragm is connected to the negative pole and the powdered carbon to the positive pole of a voltaic cell. The apparatus is said to transmit speech exceedingly well.

MUSIC IN MEDICINE.—From the time when medicinal knowledge was first embodied in rules of practice, and probably from a much earlier period, music held a recognized place in the treatment of disease. In no class of diseases, however, are we likely to derive so much benefit from the use of so pleasant a remedy as in those affecting the mind itself. In melancholia and allied states of depression its value is generally admitted in our own day. Ancient practitioners were also cognizant of its use in this respect. We must have all felt how suitable is its infinite variety and facility of expression to the changing moods of the same, and it is therefore the less difficult to understand how straying minds are pleased and settled by its charm. Certain it is that its beneficial effect is in this case considerable, and our readers, though possibly unable to acquire a knowledge of the art, should at least possess, and if needful assert in practice, a sense of its therapeutic value.

DO YOU CATCH THE IDEA?

AN ADVERTISING TOPICAL SONG.

We present below, with an illustration, a new topical song, which appears in a little pamphlet issued by Herbert Booth King & Bro., 202 Broadway, New York, and which they have copyrighted.



DO YOU CATCH THE IDEA?

You can't push two things in the same way precisely;
One's certain to fail where the other goes nicely;
They want different channels, to put it concisely—
Do you catch the idea?

For, one line of goods may be highly successful,
If advertised well, and another distressful,
Even if with your "ads." you'd filled the whole press
full—
Do you catch the idea?

The wording of "ads." is an absolute science;
When properly done, it bids failure defiance;
And upon their effect you can then place reliance—
Do you catch the idea?

An agent is needed by a large advertiser,
As client has need of a legal adviser,
To counsel and guide and render him wiser—
Do you catch the idea?

But the agent has duties far straighter and plainer,
And, unlike the lawyer, he needs no retainer;
In which his employer, of course, is the gainer—
Do you catch the idea?

The outlay of money he wisely compresses,
As the interest of his employer progresses;
Successes of customers are his successes—
Do you catch the idea?

AMERICAN BEEF TEA.

"PHIL" ARMOUR VS. LIEBIG'S BEEF EXTRACT.

"You know," said the man who sat next to me at lunch to-day, "that Phil Armour went over to Germany last summer."

I said I remembered it.

"Know what he went for?"

I replied that Mr. Armour had informed me on his return that he went over to have a surgical operation performed on one of his heels.

"Yes; I know he says so. You know, if you will think, that a few years ago you couldn't go amiss in a restaurant or hotel or drug store for those signs, 'Liebig's Extract of Beef.' You hardly ever see 'em now, do you?"

I remembered that they were not as numerous as formerly.

"Armour is a long-headed man. He saw that a man in Germany was getting rich on something that ought to belong to this country. He went over there and looked into it. He may have had an operation performed on his heel, but he came back with a formula in his pocket for making beef tea. Everywhere you go you see a little sign hung up, 'Armour's Beef Tea.' I never saw one until since his return from Germany. I'll bet they are in Germany by this time, alongside of Liebig's. Here's to Phil Armour, the Liebig of America."

—Chicago Times.

ADVICE TO A YOUNG WOMAN.

A correspondent asks us to send her a recipe for some lotion that will remove "black-heads" and "pimples" from the skin. She says that she has so many of the former that her face "looks like a stippled engraving," and so many of the latter that it "feels like a nutmeg grater." We really would like to accommodate her with the desired recipe, but, unhappily, there is no such thing. A safe and effective outward treatment for eruptive disorders does not exist. Of the many lotions, washes and pastes prescribed for the removal of skin blemishes, none has the desired effect. The trouble lies much deeper than the surface, and external applications, other than good soap and water to keep the skin clean, are of just about as much value as blacking a shoe

would be to cure bunions on the foot that wears it. But we will tell her how to make her skin smooth as satin, and to give it the glow of health—that beautiful pink-and-white tint that ladies covet and men admire.

Primarily, then, "Blanche," your digestive organs are out of order and your blood is impure. There is no use saying this is not so; that you "know better;" your skin is positive evidence against you. When your liver and kidneys do not perform their work properly, your blood retains a great deal of impure matter that, instead of helping to build up healthful tissue, is poisoning your entire system. Here and there, when it can no longer be carried in the circulation, it is deposited, and each effete atom becomes a centre of corruption. Your disfigured face warns you that it will not do to let this state of things continue. If neglected, the poison may increase, before very long, to such an extent as to be fatal.

If the proper excretory organs fail to do their duty, nature makes heroic efforts to push the offensive foreign matter out to the surface, and, speaking in a general way, the skin strives to do the work of the liver and kidneys. That is why you have pimples. Of course, put to such use, the skin cannot be healthy. Its pores become clogged, and the result is your displeasing harvest of "black-heads." You can squeeze them out, one by one, with the barrel of a watch key, but not fast enough to keep pace with their growth. As for the pimples, you may be thankful they come out, for if they did not your internal condition would soon make you a much sicker girl than you are at present.

Now, as it is presumed that you are a sensible person, and your object is the getting rid of these blemishes, we will tell you how to do it. In the first place, if your bowels are not regular in their action, use Ayer's Pills, as a measure of immediate relief; then begin to take Ayer's Compound Extract of Sarsaparilla. The name looks formidable, but the medicine is pleasant, and before you have finished a bottle of it you will find yourself improved in health and strength. Soon you will be

in the enjoyment of such consciousness of well-being as you certainly have not felt since the first pimple appeared on your skin. The use of this remedy must be persevered in until the cure is complete. Do not be alarmed if, during the first week, your pimples seem to increase in number. If they come out freely, it is the best evidence you can have, in so short a period, that the medicine is doing its work. You may comfort yourself with the assurance that in a brief time all deleterious matters will have been expelled from your system, while the blood-supplying and blood-cleansing organs will have been stimulated to vigorously healthful action. Under these changed and improved conditions—your blood being pure and your vital forces renewed—your skin will be as smooth, clear and beautiful as that of a prize baby.

You should always avoid "rich" and greasy food, but particularly while you are following this course of treatment, if you would have the medicine act quickly and thoroughly.

It is worth noting, also, that if you take a gentle course of Ayer's Sarsaparilla in the Spring, you will have no trouble with "prickly heat," "hives," "sties," or "boils" when summer comes. There is no other alterative medicine so good as Ayer's Sarsaparilla. It is compounded from the best blood-making and blood-purifying ingredients, some of which are found only in this preparation, and our recommendation of it is based upon positive knowledge.

BUSINESS NOTES.

HORSFORD'S ACID PHOSPHATE

IN INDIGESTION, AND AS A NERVE FOOD.

Dr. H. O. Hitchcock, Kalamazoo, Mich., says: "I have used it in many cases of indigestion depending upon nervous exhaustion, with marked benefit. It appears to be a good nerve food."

LOOK OUT for Imitations and Substitutes

OF

Horsford's

ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, Jr.

ESTABLISHED 1793.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York. Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

A NEW ORLEANS PAPER SAYS:

The central location and reasonable prices of the Sturtevant House, New York, and its popular management by Messrs. Matthews & Pierson, make it just the place to stop.

CALIFORNIA**Fine Table Wines**

From our Celebrated Orleans Vineyard.

Grand Hararthy & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }

**FACIAL BLEMISHES**

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST,
210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS

Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM
And **NEURALGIA**,
And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

LEA & PERRINS' SAUCE.

Lea & Perrins', the original and genuine Worcester-shire Sauce, has been before the public over a half a century. Like all popular favorites it has long been the standard of comparison and the pattern for counterfeiters who not being able to imitate its excellence offer to the public imitations in bottling, labels and style of putting up. They dare not counterfeit the signature of Lea & Perrins which is on the red label of every genuine bottle, and of which this is a facsimile.

Lea & Perrins

To be sure of obtaining the genuine article, see that the above signature is on the label.

**BLAIR'S PILLS**

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the (Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Regular Price.	Price Including Analyst.		Regular Price.	Price Including Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Pack.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	3 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York

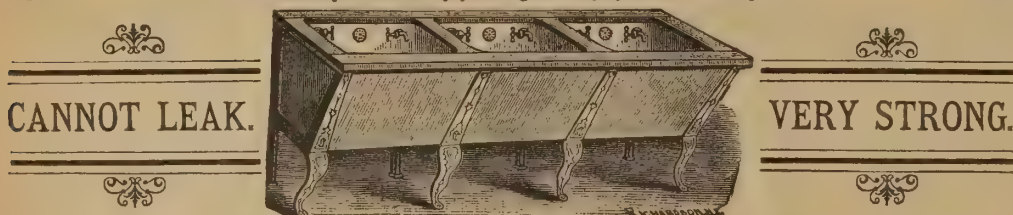
STEWART CERAMIC CO.,

312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).



CANNOT LEAK.

VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Wash tub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use night or day, when traveling or at home.

MALTED MILK does away with the danger of using sour or impure milk.

MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.

Ask your physician his opinion of **MALTED MILK**, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and

family use, ... \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes, manufacturers, merchants, physicians, chemists and private families all over the land, its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analyses of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

ELECTRICAL FISHING.—An electric globe light that will shine in twenty fathoms of water is now sought for use in the pearl fisheries.

AN IMPERIAL STATE.—California has five counties each containing a greater extent of territory than the great State of Massachusetts with its 2,000,000 inhabitants, its 352,000 wage-workers in factories, its \$300,000,000 capital invested in manufacturing enterprises and its sixteen cities of more than 20,000 each. She grows one-fourth of all the barley in the United States and produces one-third of all the gold. Only three States excel her in forest acreage; only fourteen States contain more miles of railroad. She produces one-tenth of all the wool in the United States. Only two States raise more hops, only five produce more salt, only nine more soap. Her fruit future is beyond conception, for she already has 300,000 orange, lemon and olive trees, and 4,000,000 deciduous fruit trees, while her vineyards are more extensive than those of any other ten States in the Union.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In dyspepsia and loss of appetite its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in Phthisis and other wasting diseases, Nervous Prostration, Constipation, Inanition, Malnutrition, Intestinal Indigestion and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescing.)

Formula for each dessertspoonful:—

Caffein.
Acidi Phosphorici aa, grains, ss.
Antipyrin.
Ext. Apii. Grav. dulc. (Celery), aa grains, j.
Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in Headaches, Neuralgia, Insomnia, Neurasthenia and general Nervous Irritability, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PEACOCK'S BROMIDES

(SYR: BROM: COMP: PEACOCK)

NERVE SEDATIVE.

Each fluid drachm represents 15 grains of the Combined C. P. Bromides of Potassium, Sodium, Calcium, Ammonium and Lithium.

USES:—EPILEPSY, and all CONCESTIVE, CONVULSIVE, and REFLEX NEUROSES.

This preparation has stood the test of time and experience, and can be relied upon to produce results, which can not be obtained from the use of commercial bromide substitutes.

DOSE:—One to two FLUID drachms, in WATER, three or more times a day.

PEACOCK CHEMICAL CO., St. Louis.

ESTERBROOK'S STEEL PENS

Leading Numbers 14,048,128
130, 135,
333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.

WORKS: CAMDEN, N. J.

THE FINEST MADE

COLBURN'S

PHILADELPHIA

MUSTARD

KING OF CONDIMENTS

THE VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

OPIUM AND LIQUOR HABIT CURED.

WE solicit an investigation of our system and methods, and will gladly send to any one very interesting matter on the OPIUM HABIT, DRUNKENNESS and their effects and cure. Physicians specially invited to examine, and if desirous of trying our remedies, liberal arrangements will be made with them.

THE LESLIE E. KEELEY CO., Dwight, Illinois.

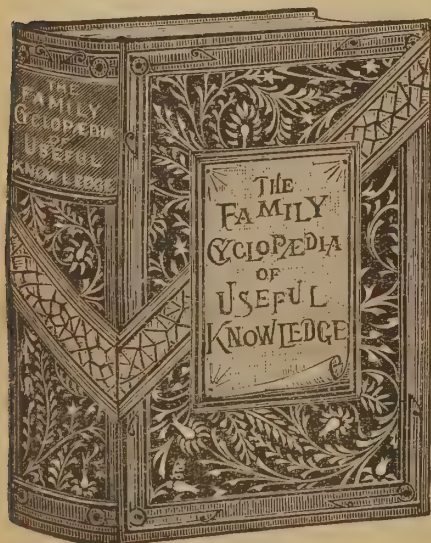


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 20 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

(ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONdit, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

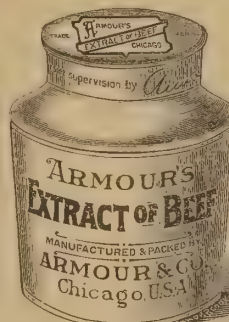
— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.



[SOLID.]

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

ARMOUR'S

EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,
And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans. PRICE BAKING POWDER CO. NEW YORK. CHICAGO, ST. LOUIS.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians. Essentially Different from all other Beef Tonics. Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

STERLING



BAKING POWDER

MADE FROM
99⁵⁰/₁₀₀ PURE CREAM TARTAR.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.

STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$3 per year. Now is the time to subscribe.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

Is the Baby Fat?

If a flabby fat, without bone or muscle, the child is not in the best condition. The great merit in

RIDGE'S FOOD

is that it not only contains flesh, but bone-forming properties. WOOLRICH & Co. on every label.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 15.

NEW YORK, THURSDAY, APRIL 11, 1889.

WHOLE No. 111.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,
H. LASSING, M. D., } Editors.
T. P. McELRATH, }
No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Adulteration in New Jersey	173
Bananas, How to eat	173
Beef, Local Inspection of	174
Bonnets and Piety	172
Boycotting Americans	172
Cigarette, the Deadly	175
Colds and Clothes	173
Domestic Dietetics	175
Editorials	169
A Sober Second Thought; Law vs. Physic; Cigarettes and their Consequences; Painted Women; Nerves and Noises; Artificial Vichy; An April Fool.	
Easter Festivities	170
Flying Fish	174
Keeping Time	174
Mood, a Perplexing	171
Novelties of the Season	174
Theism	172
The Government and Adulterations	175

A SOBER SECOND THOUGHT.

One of the most ably-handled commercial journals of the country is the *Bulletin*, of Minneapolis, whose weekly discussions of economic questions, despite their justifiable bias in behalf of local interests, are uniformly marked by sound judgment and clear and comprehensive breadth of vision. We were accordingly somewhat surprised on a recent occasion to read in its columns an editorial article favoring the passage by the Minnesota Legislature of a bill requiring local "inspection on the hoof" of beef cattle whose meat is to be offered for sale anywhere in that State; or, in other words, the peremptory exclusion from the Minnesota markets of beef slaughtered outside the Minnesota boundaries. The point, however, which the editor emphasized in his discussion of the subject was that, though the projected law might conduce to the advantage of the large local slaughtering establishments, and therefore should be sustained, it could be advocated only on the ground that

its adoption would check "the enormous aggressions" of the Chicago dressed beef concerns. It is gratifying to see, however, that further reflection on the subject has brought the *Bulletin* to a perception of the inconsistency of its original conclusions. There are other and higher considerations to be taken into account in this discussion than those contingent upon the petty prejudices of rival interests. There are constitutional rights involved in it that may not be invaded. The privileges that are guaranteed equally to the citizens of all the States cannot be abridged for the benefit of those of any single State. The whole proposition of the "local inspection" agitators is monstrous, illegal and revolutionary, and their success in blinding the eyes of any legislative body into acquiescence with the measure would be speedily annulled when the subject should be brought before the courts for adjudication. Those are the views which the *AMERICAN ANALYST* has maintained from the beginning of the controversy. How well and logically they are supported by the "sober second thought" of the Minneapolis *Bulletin* will be seen by reference to the article quoted from the issue of that paper of March 30th, which we elsewhere reprint, and to which we commend the attention of all our readers interested in the subject.

LAW vs. PHYSIC.

The New York *Medical Times*, a journal devoted to medical matters among those who practice medicine according to the homœopathic theory, has asked a legal opinion of that eminent jurist, Judge Geo. C. Barrett, as to the right of a physician styling himself a homœopathist and as such called in to attend a patient, to adopt any other than homœopathic means in the treatment of the case. The answer is what might have been expected. The judge, in the start, refuses to give an opinion on the legal aspects of the case, but limits his answer to the question of professional ethics. He could not well do otherwise, because a legal opinion can only be given on a full statement of facts. In the case under consideration, it was not stated what "homœopathic treatment" really implies. It is generally admitted that homœopathy does not consist in what the general public erroneously believes to be the vital distinction, the administering of minute doses. Neither is the judge's definition of small doses of a single drug administered upon the principle of *similia similibus curantur* correct. He is still further in error when he designates a dose of quinine, iron, morphine or other medicaments as *per se* not homœopathic. But when in his closing sentence the learned Judge, as he acknowledges, does more than simply answer the question propounded, he builded wiser than he knew. He there enunciates a broad, liberal and absolutely incontestible principle, to which every intelligent person can honestly assert. These are the words: "If, however, we are to have a class of men who purpose, in the interest of humanity, to utilize the best that they can find in any and every school, 'pathist,' as a designation of fixed methods of practice, must be ignored, and the broad and noble title

'physician,' in its unreserved sense, be revived and substituted. The patient will understand, when he sends for one of this class, that he is to have the physician's best judgment in the unprejudiced use of the ripest fruits of modern discovery in every field."

CIGARETTES AND THEIR CONSEQUENCES.

There can be no doubt that the excessive use of alcoholic stimulants is the curse of the land, as the smoking of nasty cigarettes is the vice of the day. Joe Howard has well put it when he says that the former is destroying our men and women, while the latter is dueling our boys and girls. Effeminate-looking boys, strutting about with vile-smelling cigarettes in their mouths, a nuisance to everybody, would be bad enough, but well-informed physicians say that cigarette-smoking has largely increased pharyngeal, bronchial and catarrhal troubles, which are fast laying the seeds of phthisis, filling our hospitals and cemeteries with consumptives faster than an epidemic. Another evil effect of the cigarette habit was recently brought to our attention by a prominent tobacconist. He says that it has enormously increased the number of smokers and the amount of tobacco consumed, not only by this addition to the ranks of smokers, but out of all proportion the amount smoked by those who were only moderate cigar-smokers before, and have now become cigarette fiends. The subject certainly furnishes food for serious thoughts.

PAINTED WOMEN.

If common rumor is to be believed, our women of the upper and middle classes have far too generally adopted the harmful and detestable practice of imparting artificial color to their faces and fictitious whiteness to their necks. Some even enamel their shoulders and arms—at least, so we are told—animated by a feeling akin to the professional enthusiasm of the provincial actor, who, upon being unexpectedly cast for the part of Othello, promptly blacked himself from head to foot, in order to be perfectly in keeping with the important role assigned to him. The application to the skin of these red and white compounds, the basis of which is too frequently some poisonous mineral substance, is a dangerous and silly usage—plainly speaking, a barbarous custom, more honored in the breach than in the observance. Actors and actresses, whose faces are exposed to a strong artificial light whilst they are on the stage, are compelled to use pigments in order to heighten their natural color, as well as to disguise their individuality, as the saying goes, "beyond recognition." They are, however, for the most part extremely careful not to apply anything but vegetable preparations to those portions of their epidermis which have to undergo superficial treatment in obedience to theatrical exigencies. Many ladies in private life, we regret to say, are not so particular; consequently they ruin their complexions and impair their health by "beautifying" themselves with cosmetics and powders, into the com-

DRYDEN & PALMER
TRADE MARK
NEW YORK
ROCK CANDY and ROCK CANDY SYRUPS.
For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of
DRYDEN & PALMER,
19 Hudson St., New York.

position of which enter such deleterious matters as lead and zinc, bismuth and belladonna. We entertain all manner of objections to beauty shows, too numerous to set down in this place; but, if the coming display in Paris should serve as a practical protest against the prevalent abuse of "maquillage," we shall unhesitatingly accord to it the expression of "mitigated disapproval." A "horrible example" of this species of art, may be had any day in Fourteenth street in this city. There in a shop for the sale of all kinds of alleged improvements for women, from the crown of their heads to the soles of their feet, may be found the proprietress, "old mutton dressed up as young lamb." A glance at her make-up will suffice to satisfy the most ambitious whether she would like to look "improved," as that female evidently thinks she is, or would make others believe her to be.

NERVES AND NOISES.

The most sensitive, delicate and easily injured parts of the human system are the nerves. These never can become so accustomed to incessant strain as to escape injury. That which is unpleasant to the senses is always—and, so far as the sense of hearing is concerned, discordant noises always are—injurious to the nerves. The yelling of steam whistles, the hiss of steam pipes, the rattle and clash of wheels on stone-covered streets, the rumble of street-cars, the clangor of bells, the howling of hucksters, keep up a condition in which a healthy nervous system of natural strength and sensitiveness is impossible. And there is not one of those agencies that is not suppressed more or less completely in most of the great cities of the world. In Berlin heavy wagons are not allowed on certain streets. In Paris any car-load of rattling material must be fastened until it cannot rattle. Munich allows no bells on street cars. In Philadelphia, church bells have been held a nuisance in certain neighborhoods by judicial ruling. Steam whistles are forbidden in nearly all the larger cities of this country, and most of these noises in our advanced stage of civilization are utterly unnecessary. Clocks and watches are now so cheap and plentiful that steam whistles and bells to denote the time are useless. Why should not all useless noises, and nearly all are useless, be suppressed?

ARTIFICIAL VICHY.

Carl H. Schultz, a mineral water manufacturer of this city, has commenced a newspaper attack upon all such competitors as he dares to mention by name, in which he uses a curious conglomeration of figures called an analysis, which are perfectly unintelligible, not only to the ordinary reader, but to the trained chemist. All

that they amount to is a sort of comparative statement, in which unmeaning decimals are used to show the great superiority of Schultz's vichy water over all others. In fact, in that muddled way of showing it, Schultz's imitation was even better than the genuine natural vichy. To explain the so-called comparative analysis, as well as such a misleading table can be explained, it seems to be based on Bauer's analysis, which gives the constituents notoriously high, and in order to bring it up in the most misleading way possible, the contents of some seven syphons, containing about 198½ ounces have been analyzed, and the result given in grains. No particulars are given as to the reason for the apparent discrepancy between the two components given and the total solids found. It is important to remember that all our mineral water manufacturers have to make their waters to sell especially to liquor stores, and in such places the natural mineral waters, like vichy, could not be used. Mr. Schultz should remember that such chickens always come home to roost.

AN APRIL FOOL.

Last week we quoted an article from the *Albany Merchants' Mail*, denouncing the fraudulent scheme which the Eastern butchers are managing, in order to lower the quality and raise the price of beef. We gave full credit to the source from which the extract was taken, only claiming as our own our assent to the views it expressed. The following idiotic effusion, which that republication has elicited from the *Butchers' Advocate* of this city, is both amusing and confusing. It is funny as a specimen of metropolitan Billingsgate, and it is, at the same time, puzzling in its incoherency, the *Advocate* man having gotten himself so hopelessly mixed. After careful examination, we are inclined to attribute it to the combined influence of gin and stupidity.

LOST TO ALL SHAME.

That disreputable old female in the journalistic field, the *AMERICAN ANALYST*, lost to all sense of the shame it should feel after selling its honor to the dressed beef syndicates, had another spasm last week over some incoherent rantings of its sister in shame, the *Merchants' Mail*, of Albany. It says:

The *Merchants' Mail*, of Albany, strikes the nail on the head in the following retort to an attack upon Chicago dressed beef by one of our local contemporaries: "The *Butchers' Advocate*, of New York, grows frantic in its efforts to persuade its readers that Chicago dressed beef is unwholesome, not fit to eat, and people do not know what they are eating when they have it upon their tables. Such ranting is the worst kind of bosh, and no intelligent man for a moment will give it any consideration. As far as health is concerned, we prefer a thousand times Chicago beef to home dressed, and so does the majority of consumers."

Such stuff as this is hardly worth noticing, but as the rabid jabbering of an idiot may at some time need correction we have noticed the above. We can't just see how it is the concern of the great reading public what kind of meat this disreputable old lady prefers. It can eat the flesh of asses if it chooses, and it would not require an over great mental effort to conclude that it is its staple food, judging from some of the matter it has served up on this subject. Then, again, we doubt whether the old reprobate knows the difference between healthy and diseased meat when she sees it, and may have been eating the produce of lumpy-jawed cattle without knowing it. There are some people in this world that even disease won't have anything to do with. This hired heeler of the Big Four next goes on to say:

They may possibly have hayseed in their hair; but all the same they know there is no better inspection in the country than that carried on by the Chicago men, and so does every other well informed man. These Western men invite anyone that so desires to come and investigate their inspection.

If anything more were wanted to convict this "fake" weekly analysis of being in the power, body and soul, of the Big Four, what would be better than this. Ninety-nine out of every hundred men in this country knows that the inspection at Chicago is as lax and farcical as could be imagined. The committees of the national and various State legislatures which have looked into the matter have unearthed enough testimony to that effect to convince anybody whose mind was not made up on a basis of dollars and cents. We have

heard of certain individuals who keep on telling the same lie over and over until at last they come themselves to believe what they say really did happen. This is the only manner in which we can account for the course of the *ANALYST*. When its masters took possession of it and fastened their collar around its neck, they gave it certain arguments to put forth and statements to make which the poor slave was compelled to keep repeating under penalty of the scourge. This it has done until now, notwithstanding the fact that its statements and arguments have all been exploded long ago. It keeps on reiterating them, until it has brought its poor imbecile's mind to believe in them. At least this is the most charitable view we can take of the subject.

EASTER FESTIVITIES.

QUAINT CUSTOMS OF VARIOUS NATIONS IN EASTER CELEBRATION.

The festival of Easter has, since the time of the Emperor Constantine, been celebrated throughout the Christian world with much pomp and great signs of rejoicing. Aside from the religious features of the day, it is a period when every housewife puts forth her best efforts for the entertainment of her family and friends, seeking to indemnify them for the lengthy forty days of abstinence. Almost every country has a number of national dishes, considered appropriate to the religious holiday. Eggs were a forbidden article of diet in the primitive church during Lent, and they consequently accumulated in such quantities that at Easter they were distributed among the children. Originally, they were only dyed red, in remembrance of the blood of our Saviour which was shed upon the cross, and also as emblematic of the scarlet cloaks of the cardinals. Eggs were also indicative of fecundity, and when offered as gifts to friends, were intended to be an expression of the best wishes of the giver for a long life and continued prosperity. With the Egyptians, they were figurative of the survival of mankind after the deluge. To the Jews, they signified the emancipation of the children of Israel from Egyptian bondage, and were partaken of in common with the paschal lamb at the feast of the Passover, which falls at the same time as Easter. The Romans considered the egg as the origin of all things, and they were in the habit of beginning their repasts by eating them. To the Christians they represented the resurrection of Christ, who arose from the tomb just as the tiny chick comes forth from the walls of its fragile prison. Eggs formed a prominent dish at every Easter entertainment, for the superstitious imagined that they possessed the power of sanctifying the body after the long and tedious Lenten fast. Immense baskets filled with them were borne into the churches, where they were sprinkled with holy water and blessed by the priest. The servants then carried them to the different houses, where they were heaped in huge chargers and placed in the centre of the table and covered with a fine white damask napkin, over which was strewn a profusion of spring flowers. Twelve dishes of meat were ranged around the egg platters, which remained on the table during the whole of Easter week. Every visitor was invited to help himself to an egg, and it was considered a breach of etiquette to refuse. At Queen's College, Oxford, a feast of eggs was provided for the scholars at Easter. The first dish which was brought on to the table was a red herring, seated astride of the rude effigy of a horse, riding over a field of corn salad. This was intended as a farewell to Lent. Ham and a gammon of bacon were numbered among Easter dainties, being intended to be eaten as a sign of abhorrence with which all good Christians regarded the Jews. A tansy cake was another dish which was partaken of in remembrance of the bitter herbs of the Jews. At Twickenham, two enormous cakes were baked at the expense of the church, and divided amongst the young people of the parish. This time-honored custom was abolished by an act of Parliament, being regarded as a relic of superstition. The money was afterward employed in the purchase of loaves of bread, which were flung down from the church steeple and scrambled for

by the populace. Pies shaped like coffins were apparently much relished. They were made to imitate the cratch or manger in which Christ was laid at his birth. These toothsome delicacies were in great demand among the lower orders. Parties of youths and maidens also went pudding-pieing, as the pastime was called. They roamed in bands from one public house to another, devouring pudding-pies. These were small cakes, similar to cheese-cakes, which were filled with custard and the top sprinkled with currants. They were washed down with copious libations of currant wine. At Easter, the church wardens in many districts brewed a strong beer, called church or Easter ale. They served this beverage to their parishioners, who drank it, eating the provisions they had brought to church with them. In return, they offered some small gratuity to the priest. This custom at last degenerated into regular drinking bouts, and became such a prolific source of scandal, it was discontinued, much to the regret of the people. Another seasonable beverage was called baggot, being a mixture of ale, sugar and aromatic spices; it was a drink held in high repute. In Ireland, the peasantry celebrated the Easter season with loud demonstrations of great joy. The good wife provided an enormous pot of boiling water, which was suspended over the glowing great fire. Into this she threw several fat chickens, a piece of bacon, and anything else that suited her taste. The family were gathered about the huge fireplace, anxiously watching the preparation of the seething mass. Woe betide the hungry wight who was tempted to taste it before the hour of midnight. As the last sound of the striking clock died away upon the stillness of the night, a loud clapping of hands was heard, interspersed with peals of merry laughter. All the company repeated an Irish phrase which means "out with the Lent." Great dishes of steaming food were placed upon the long table, and the entire family gathered around to partake of the appetizing viands. After supper they retired for a brief period, rising betimes to see the sun dance in honor of the Resurrection. To this day the peasantry firmly adhere to this superstitious belief in many parts of Ireland. In Russia, immense quantities of a sort of cake, filled with almonds and raisins, were prepared and offered for sale at all the booths. One became very tired of this substitute for bread, as the bakeries were closed, and no fresh loaves could be procured for three days. At the feast of the Passover, two dishes of the paschal lamb were placed upon the table. There were also two loaves of unleavened bread, some meal, two small fishes, and a hard-boiled egg. The meal was because of Behemoth, the fish because of the Leviathan, and the egg because of the bird Ziz. These three dishes were supposed to be the food of the blessed in a future existence. The Poles have always been noted for their strict observance of the festivities of the church. Nowhere save, in this country, have the entertainments been preserved in their pristine glory, flavored with a touch of barbaric magnificence. The entire Easter season was dedicated to an endless round of feasting. A traveler in Poland describes a feast in which he participated as exceeding in lavishness of display and wealth of decoration anything he had ever beheld. The walls of the dining-room were hung with trophies of the chase, and the battered helmets and shields of a long line of ancestry. On the immaculate linen of the table were placed quantities of massive silver dishes holding the choicest viands, and supplemented by costly wines of the rarest vintages. A lofty tower of pastry or sugar, decked with wreaths of glossy ivy rose majestically from the centre of the board. A roasted lamb, still clothed in its snowy fleece, performed the functions of warder. It was in the act of unfurling a crimson pennon, inscribed with the motto: "Alleluia!" emblematic of the resurrection of the Lord. This was surrounded by a fortification of sweetmeats, sugar plums, and delicious fruits. Next came a pyramid of hard-boiled eggs, around which were coiled, like writhing serpents, links of sausage, representing the ordnance stores of the castle. A wall of saffron cake arose majestically, its

battlements formed of sponge cake. These fortifications were traversed by avenues made of smoked tongue, pickled herrings, and other kinds of fish. A covered way was formed of roast joints, ham, fowls, and game. The bastions were made of solid gold, and silver flagons, filled with foaming mead and ruby and amber wine. This terminated in a *glacis* of magurkas, a kind of sugary cake, on whose glassy surface were traced various mottoes appropriate to the season. The guests assembled around the hospitable board, awaiting impatiently the signal to storm the appetizing battlements. The priest raised his eyes towards heaven, pronouncing the solemn benediction, and sprinkling the table with holy water. The host cut up a hard-boiled egg into thin slices, which he presented to his guests, dividing a slice with each one in turn. Then the business of the day commenced in good earnest, and the ramparts soon presented a scene of ruin and disorder. Many people assert that the nobles only tasted of the good things on the table, giving the rest to the servants and tenantry. After dinner, the company repaired to the balconies to watch the peasants, who had assembled in their gay costumes. They had armed themselves with huge baskets of provisions which were blessed by the holy man, and they retired after having received presents of food or money from their masters. In some remote provinces of France the priest goes from house to house, blessing the inmates, and in return is given donations of eggs, enough to last him for many weeks. In Italy the children have a feast, and the day is one of as great importance as Christmas is with us. In England and America it is celebrated by a plentiful dinner, in which no particular dishes play a prominent part, except the turkey, which everywhere in this country graces all the feasts as it also does in the old country. Many generations of American children have indulged in the time-honored custom of egg-rolling in the grounds of the White House at Washington. On this day the grass plots, which are already green in that mild climate, are alive with myriads of school girls and boys. Each one brings a basket which contains a lunch, supplemented with quantities of hard-boiled eggs. The fun begins when the little ones commence matching eggs. I believe the ones that withstand the greatest number of blows without being cracked are the winners. The grounds ring with peals of merry laughter, and all day long the sport continues. At set of sun the children separate leaving the debris of mountains of white egg shells and other relics of the luncheon strewn on the ordinarily well-kept gardens of the Presidential Mansion. It is remarkable how wide-spread the custom of celebrating Easter is, and in any civilized land it is a day of rejoicing, feasting and prayer.—COUNTESS ANNIE DE MONTAIGU, in April *Home Maker*.

A PERPLEXING MOOD.

RIGHT AND WRONG USES OF THE SUBJUNCTIVE.

A correspondent recently asked a newspaper of this city which passes for, and actually is, an authority concerning the niceties of the English language, whether this sentence is grammatical: "I asked if he was in." The correspondent was informed that the sentence should be, "I asked if he were in," and was further informed that "if requires the subjunctive." The oracle would have done better if it had explained to its correspondent that the irregular subjunctive, "be" or "were," although a very useful thing in its way, is apt to become a nuisance when it is out of its way, and is continually making trouble for those who desire to speak or write the English language correctly. It is in reality merely a short form of the regular subjunctive may, might, would or should be, and may properly be used in place of one of those expressions. Perhaps the nearest approach to a rule concerning it may be found in the statement that it may be used when the phrase implies a contingency, and not otherwise. A contingency needs the subjunctive, but "if" does not always

require it, because "if" does not necessarily imply a contingency. In the phrase referred to, the inquirer did not ask whether the other person might be or should be at home, but whether, as a present matter of fact, he was at home. Suppose we change the form. At the house, would the inquirer say, "I want to know if Mr. — be at home?" Of course not. He would properly say, "I want to know if Mr. — is at home." Therefore, in reporting the event, he correctly said, "I asked if he was at home." "I asked him if he were going to the races" is proper, because the question implies a contingency. "I asked John if his brother was at the races yesterday" is also proper, because it implies a matter of fact. On the whole, it is safe to say that there is a by no means admirable tendency toward a too frequent use of the irregular or short subjunctive, and that it is often improperly employed. Writers should beware of it, and it would be well to mark it "dangerous," as it is easily misused.

IGNORANCE NOT BLINDNESS.—Examinations in English schools go toward proving that color blindness is often declared to be present when really no organic defect but only poor training in the naming and distinction of colors is found to be the trouble.

CONGRESSES IN PARIS IN 1889.—Forty-nine Congresses of various sorts—literary, medical, mathematical, metallurgical, architectural, nautical, and commercial—have been duly authorized by a committee of the Paris Exhibition, which is presided over by M. Pasteur, who has for his associates M. Mezieres, of the French Academy, and M. Meissonier, the painter. "To these Congresses," says the *English Mechanic and World of Science*, from which we take the item, "that of the International Females will, it is expected, be added in time," which puts us in mind of the man who, when boasting that he had eaten forty-nine hard-boiled eggs, was asked why he had not eaten one more to make an even fifty, replied that he "didn't want to make a d—d hog of himself just for one egg."

BIG FIGURES.—In 1866 a Corliss engine was placed in the machine-shop of the Union Pacific Railroad at Sacramento, Cal. The engine has a 4-foot stroke and an 18-foot belt wheel, and it has been run continuously since it was placed there, frequently running night and day, often until 10 o'clock at night. Up to this date scarcely \$100 have been spent for repairs upon it. Allowing but ten hours a day and 300 working days to a year, this engine has been working 66,000 hours, at the smallest calculation, since it was placed in motion. The belt wheel makes 70 revolutions per minute, and for the 66,000 hours it has been going has made 277,200,000 revolutions. The circumference of the belt-wheel is 56½ feet and in making the 277,200,000 revolutions has traveled a distance of 15,651,800,000 feet, or 2,964,354 miles, equivalent to more than 100 times around the earth. The belt-wheel has traveled at the rate of 45 miles per hour.

CELLULAR CLOTH.—The new cellular clothing now coming into use in England is said to be a success. It is woven out of the same material as the common weaves of cloth, being simply, as its name indicates, closely woven into cells, the network of which is covered over with a thin fluff. Its porous quality allows the slow passing of the inside and outside air, giving time for the outside air to become of the same temperature as the body, obviating all danger of catching colds and allowing vapors constantly exhaled by the body to pass off, thus contributing to health and cleanliness. The common objection to cotton clothing, that it is productive of chills and colds, is removed if woven in this manner, and the invention can certainly be said to be strictly in accordance with hygienic and scientific principles.

A CURE FOR HYDROPHOBIA.—Chance has led to the discovery of a cure for hydrophobia. In Ayacucho, Peru, a man was bitten by a mad dog, and shortly after the disease developed. In his madness the man rushed from the house, and, falling among a lot of "peuca" plants, some of the juice of these plants entered his mouth and he swallowed it. A moment of reason seems to have followed, during which he seized some of the leaves, broke them, and drank of the milky and glutinous sap with which they are saturated. When his friends found him he was senseless, with the "peuca" or "maguey" leaves stretched in his hands. He was carried to his home, and soon regained his health. Experience has long since taught the Indians that "peuca" sap invariably acts as a cure upon dogs suffering from hydrophobia.

BOYCOTTING AMERICANS.

INCREASING EXCLUSION OF AMERICAN-BORN BOYS FROM THE INDUSTRIAL TRADES.

The Philadelphia *Record* calls attention to the growing extent to which American boys are prohibited in that city from learning the trades, and the same objectionable state of things is apparent in New York and throughout the country. The Philadelphia boycott is thus described: In 1880, according to the census returns of that year, only 30 per cent. of the artisans engaged in trade in Philadelphia were of foreign birth. That was a fine showing as compared with the other big cities of the country, for in Boston the percentage of foreign-born workers was 40, in New York 56, in Chicago 60 and in Brooklyn 69. It is to be feared, however, that the census of 1890 will hardly be so favorable to Philadelphia as distinctively the American city. Immigration and the trades unions have been reducing the proportion of the native element in the trades until now it is doubtful if half of those engaged are of American birth. This is plainly shown in some of the building trades. "Why, I don't believe that half of the plasterers are Americans," said a boss plasterer when asked about his trade; "the men make good wages, \$3.50 a day, and a good many of them \$25 a week, and there are not enough of them to do all the work. If it had not been that work was slack in New York last season we would not have been able to get along at all here in Philadelphia, where there was so much building going on. We would have been in a fix if there had been a big demand for plasterers in both places. The Plasterers' Union, which controls the journeymen, is a strong and well-organized body. It allows each master only two apprentices, and there is so much trouble about the matter that I don't care to be bothered by apprentices. The result is, as I said, there are now really not enough men in the trade, and that most of those in it are of foreign birth." "I don't know of a single boy in Philadelphia learning to be a stonemason," said Contractor Michael McCahey, who has had a long experience in his line of business. "From the way the masons around me talk I should judge that most of those now in the trade are foreigners. It is a hard trade, and the work is rough, but the pay is good. The men receive \$3.25 a day for nine hours' labor. The trade is not an attractive one to a boy, I will admit, as there is a good deal of lifting of heavy stone, but there is a good living in it." Among the stonecutters fully one-half are of foreign birth. These are mostly Englishmen and Scotchmen, with some Germans. The pay is good—\$3.50 a day for nine hours' work, with only part time Saturday. The Progressive Stonecutters' Association, to which most of the journeymen belong, allows four apprentices to a yard. "There are a good many more than that who apply to be admitted as apprentices," said a cutter in a Twenty-second Street yard, "I have often seen mothers bring their boys to the office and ask to have them taken in, but they have to be refused. 'The rough thing about it is that a lot of foreign masons come over here in the summer season for work and attempt to boss us Americans. It is a good deal like a tenant trying to boss his landlord. They belong to the association and undertake to tell us when we shall work and what we shall receive. It's pretty cheeky, and we think that it is about time we Americans were protecting ourselves. We throw open everything for them and don't get anything in return. They don't treat us so well in Canada. When I went to St. John's a few years ago they made me pay a working tax just for the sake of following my trade in the town.' The bricklayers have a protective association that is one of the strongest labor organizations in the country. They regulate the number of apprentices that a master may have, allowing him as many as they think he can properly instruct. The bricklayers have effectually prevented the influx of foreign workmen during the busy season, and aim to have all their members citizens of

the country. The carpenters are split up into a variety of organizations, and have no system of apprenticeship. Large numbers of carpenters come over every year from Europe, and the native element in the trade has been gradually decreasing. The painters are also without any system of teaching boys their trade, and thus making openings for well equipped foreigners of their craft who come to this country. In other trades the condition of things is probably not greatly different. From these few instances it will be apparent that the census of 1890 may not be so flattering to Philadelphia as was that of 1880, and that the American boy has not been having much of a chance during the last few years.

THEISM.

SOME OF THE EVIL CONSEQUENCES OF THE CUP THAT CHEERS WITHOUT INEBRIATING.

It is not a little curious that the diseases arising from the wrong uses of tea should be met with in greater frequency in countries foreign to its growth, asserts the London *Lancet*. The diseases due to tea are well known to doctors, but the public seem to be strangely indifferent to the teachings of their medical advisers in these matters. Recently, in France, M. Eloy has reminded medical men how vast is the number of diseases owing an allegiance to the dominion of Queen Tea. America and England are the two countries that are afflicted most with maladies arising from the excessive consumption of tea. Individuals may suffer in a variety of ways. It is customary to speak of acute, subacute and chronic "theism"—a form that has no connection with theological matters. The predominance of nervous symptoms is a characteristic of theism; general excitation of the functions of the nervous system may be observed; or the weakness may be noted more especially in the brain as distinguished from the spinal cord. Perversion of the sense of hearing is not at all an uncommon symptom—patients hearing voices that have no real or objective existence. The irritability that overtakes women so frequently may sometimes be clearly traced to an excessive indulgence in afternoon tea. There is hardly a morbid symptom which may not be traceable to tea as its cause.

BONNETS AND PIETY.

A MINISTER'S TESTIMONY AS TO HOW WOMEN'S ADORNMENT INTERFERES WITH CHURCH WORSHIP.

The Rev. Chas. F. Deems in a letter to the *Mail and Express* gives an eloquent description of how the proximity of a fashionable bonnet diverted his attention at church from the sermon of an eminent minister.

It was John the Baptist's Day in the city of St. Louis. I had been doing several days' work in Kansas and was on my way back to my New York parish. In eight years I had but one Sunday of vacation, in view of which I concluded to make this particular Sunday my Sabbath for the week. So I betook me to St. George's Church for worship, and entered the house of prayer with most devout intent. Several things have been told me which my constant devotion to the pulpit had kept me from verifying. One of these was that it would do a pastor good to put himself in the place of the pew-holder and study the whole subject from the standpoint of the hearer and worshipper. Men had told me that. Women had told me that female dress had been a great obstruction to their piety, in that it attracted their attention from worship in the church and had sent them home with uncomfortable feelings. I had been able to see the reason in what the men said more than in what the women said, largely perhaps because I am not a woman. But I am human. And this was my day. The morning prayer was very helpful and got through without any serious difficulty, perhaps because the reading desk was on my left and my eyes

were directed that way when lifted from my prayer book. It is now recollected that there was something pretty, or otherwise pleasant, more nearly in front of me. What it was that came into full play when I adjusted myself in the corner of my pew to listen to the sermon about to be delivered by my friend, the rector. Precisely in a line between him and me was a bonnet—perhaps the ladies would call it a "hat"—I am not learned in this branch of knowledge, being, in fact, the standing amusement of the ladies of my domestic circle for my absurd and ridiculous ignorance of feminine gear. Hat or bonnet, it was a beauty. Would that I had sufficient mastery of the *technique* of millinery to make my readers take in all the details which were combined in the creation of this capital piece of ornament. Instead of such analytic description I must content myself with the unsatisfactory synthetic exclamation, "Oh, but it was a beauty!" In general I may venture to say that the groundwork was black and soft and lacey. On that reposed, to that clung, or from that swung, a bunch of leaves and flowers, the differences and the contrasts and the harmonies of the colors and forms and combinations of which produced a most agreeable impression. My eyes ran just over the top of that bonnet to reach the preacher's face, and if they fell just one degree lower than that intellectual face they fell on that beautiful bonnet and—why should I not be honest?—gladly rested there. How many trains of thoughts ran through my head. I began to call up the different kinds of bonnets I had seen and the faces I had seen below them. While I could not recollect a single case of a lovely face below a bad bonnet, I recalled some great disappointments, a notable one in Paris, in the days of my younger manhood, in the days of Empress Eugenie's loveliness and bonnets, when I made quite a little run to get in front of a carriage in which I had seen such a "love of a bonnet" only to be punished by beholding a dark, ugly, disagreeable, sinister female face. Oh, much of that unedifying kind of thought ran through my head, while I was trying to hold tight to the thread of my friend's discourse on the rough, the lonely, the uncompromising, the un-Jerusalem preacher at the Jordan, while my eyes would drop to rest on that beautiful bank of flowers. Then I found myself wondering whether this specially attractive combination of beauties had been made by the stately head who wore it, or whether it was the result of the laborious ingenuity of a New York *modiste* whom I know, or whether it had been imported from Paris or Vienna. It was in the midst of these conjectures that I was recalled to a sense of my condition by the emphatic declaration of the preacher that John the Baptist stood in the loneliness of high integrity unaffected by the opinions of men or those sentiments of society which demand that when we are at Rome we shall do as the Romans do, and, in the language of the rector, "If we should have occasion to pass through hell, we should do as the devils do, at least while making the transit." This naturally lifted me from speculations suggested by the sight of the beautiful bonnet. Some preachers have a way of closing their sermons with what they call an "improvement." I have a desire to "improve," this bonnet incident. Upon going out of church I found in myself neither admiration nor dislike of the lady who wore the bonnet. Indeed, I did not see enough of her face to form any opinion of her. But there was a set of stubborn facts. I am not a woman; I am only a man. I am not young; indeed, I have no child that is not probably older than the lady with the beautiful bonnet. My studies have not been largely in the department of aesthetics; they have been in science, physical and metaphysical. And yet a Christian minister, who is suspected of being on the edge of old age, who had reached the city very weary from the delivery of a course of lectures to a body of clergymen on "The Ministerial Life," who was longing for the quite of the sanctuary, who had heard but two sermons in twelve months and was hungry for the Word, and who had come from his hotel to hear this.

particular clergyman preach because he had had long regard for him and interest in him—such a hearer has his worship broken by a thing not bad, not ugly, not disagreeable. Suppose I had been a woman and had my bonnet on. Could I possibly have refrained from wondering whether my bonnet was as beautiful as that other bonnet? I do not see how I could possibly imagine it was *more* beautiful. Suppose it had been as beautiful. Then I was only on a par with another lady. But oh! and alas! there would have been a great probability that mine was not as handsome as hers! Perhaps the people in the rear, some old parson from New York, for instance, might have been making disparaging contrasts. How could I endure that? You see, in the present state of fashion, it is the worshipper in the rear who has to meet the whole thing, those in front see nothing of it. The woman in the last pew cannot harm the congregation. The preacher sees no hats or bonnets, except such as are built on the architectural design of the Tower of Babel, or laid out and planted like the Hanging Gardens of Babylon. Men do not wear any clothing calculated to attract attention; it is the women. If reform comes it must come from women. Will it? Where are those "Daughters of the King" of whom we hear? Can they do nothing? Will they not try? I talked it over with some ladies of the St. George's congregation. Any suggestion from a man might probably peril the reform. Cannot Christian women seek and obtain from God such a consecration of their æsthetic talents and culture as will enable them to devise some cure of an evil which is so great as to retard the preaching of the Word of God? Plainly it must be the adoption of such a dress as will not call attention to the individual wearer and will not be grotesque or offensive to the beholders. All that is required is that it be tasteful and uniform.

HOW TO EAT BANANAS.

HINTS FROM THE TROPICS ON THE PROPER DISPOSITION OF A LUSCIOUS FRUIT.

Ordinarily in this country bananas are eaten raw, but in tropical countries, while the natives eat them in like fashion, a more delicate and, it is said, a more healthy mode of eating them is in vogue. The soft, ripe fruit, beaten to a cream with a sufficiency of Amontillado sherry, forms a delightful appetizer, and is the favorite way of eating the banana in certain parts of the West Indies and of the African coast. Taken in moderation at first rising in the morning, bananas are said to be preservative of health, and in this respect are in marked contrast with other tropical fruits, which are detrimental, rather than otherwise, to continued good health. An intoxicating drink is made from the banana, and on account of its astringent qualities is of considerable medical value. In Africa, and probably in other places also, the banana and the kindred tree, the plantain, are, in a very large measure, the sole dependence for the food supply of the natives. The banana, when ripe, contains 74 per cent. water; of the 26 remaining parts 20 are sugar and two gluten or flesh-forming substance. It is not in itself a perfect food, but requires the addition of some other nitrogenous material, as lean meat. The pulp of the banana, but more often of the plantain, is oftentimes squeezed through a sieve and formed into loaves, which, when ripe, will keep a very long time. In the dried state it has a resemblance of bread both in taste and composition, but the ripened pulp is saccharine, and not farinaceous. At Panama the rarest and most delicious of the banana species has its home. Small and ruddy in color, it is popularly known as the thumb banana, and on account of its delicate flavor is much prized even there. It does not bear transportation well, although it may often be found in the markets of Chicago and New York. Crossing the Isthmus by the line that connects Panama with Aspinwall, the natives of the villages along the route make a habit of coming to

the train, decked in primitive fashion, with garlands of flowers around their necks and flowers in their hair, and disposing of the fruit. Here the thumb banana may be eaten in its perfection.

COLDS AND CLOTHES.

INJURIOUS CONSEQUENCES OF WEARING TOO HEAVY CLOTHING.

The teaching of modern science and of ancient custom goes to show that heat-production within the body has much to do with the tissue-changes concerned in muscular activity and with healthy digestion. It is conserved by warm and moderate, wasted in evaporation by excessive, clothing. Finally, by a simple nervous reaction, it is increased after the contact of external cold. It follows from these observations that, if we be so clad with comfortable underclothing that surface perspiration is not formed in excess and is rapidly removed, one great cause of chill—sudden evaporation—is done away with. Outer cold, then, provided it is not too severe, only touches, as it were, the spring of the heat-making metabolism, and, exciting an elastic rebound in the chain of vaso-motor fibres, awakens that oxidative action by which every tissue is made to yield its share of heat to the body. This bracing influence is lost wholly or partly to those who are too heavily clothed, and in its place we may have a dangerous excess of surface heat. It is for this reason that we protest against the indiscriminate use of the thick and heavy overcoat. We would rather see men in fairly robust condition, especially if young, clad warmly next the skin, and wearing either a light top-coat or none at all. There can be no doubt that the habitual use of great-coats is indirectly accountable for the chills which they are intended to prevent. Were the overcoat worn continually it might attain its object. Its intermittent use, even when ample underclothing is worn, affords no solid guarantee of safety, but rather the reverse. The man of sedentary habits has especial need to remember this. He emerges daily from a warm breakfast-room clothed in his ordinary winter garments, with probably woolen underwear, and over all the heavy ulster or top-coat. After a short walk he finds that the sense of warmth he began with is more than maintained. He arrives at his office or place of business, and off goes the overcoat, though the air of the newly-opened room is as cold as that without, and draughty in addition. During the day perhaps he travels to and from adjacent business houses wearing only his house-clothing. The overcoat is laid aside till closing time reminds him of the journey home. The frequent result is that somehow between the hours of his departure and return he is chilled. No doubt he would run as great a risk if, lightly clad, he were to face the rigor of a winter day. In this case, however, exercise and habit might do much to develop the power of endurance, and there would, at all events, be less danger of sudden cold acting upon a freely perspiring surface. Woolen underclothing represents a state of healthy comfort intermediate between these extremes, and more resistant to chill than either. In commending its use, however, we do not assert that the influence of age and constitution is to be overlooked. Youth can oppose a power of resistance to depressing agencies which does not reside in the worn-out nerve-centres of a riper age. Similarly, that elastic reaction which characterizes the nervous and sanguine types is not to be looked for in the lax tissues of the lymphatic. The weaker physique naturally calls for fuller protection than the stronger; and any rule requiring the disuse of the overcoat should allow of reasonable exceptions in favor of the old and constitutionally feeble. Unusual severity of weather, especially if associated with night air and the loss of sleep which this implies, is another condition which might well constitute an exception. In such a case we are compelled to add some form of overcoat to the ordinary amount of

clothing. Some parts of the body—for example, the chest, throat and feet—are certainly more susceptible to cold than others. As a useful safeguard, cold or tepid bathing of such parts is in merited favor. The custom so common with many persons, especially women, of walking out in thin-soled boots, often plays an important part in catching cold. The progress of time and of rational thought may be expected to bring a more comfortable arrangement by clothing the foot with woolen hosiery and a stouter boot.

ADULTERATION IN NEW JERSEY.

PROPOSED AMENDMENT TO THE FOOD ADULTERATION LAWS.

The following draft of an amendment to the laws governing the sales of food products in the State of New Jersey, prepared by a committee of the State Association of Retail Merchants, has been submitted to the New Jersey Legislature. It has received the approval of State Dairy Commissioner Newton and no doubt will become a law. The adoption of the amendment will secure to the retail grocery trade immunity from prosecution when innocent of intent to deceive or defraud, which the law has hitherto denied.

1. *BE IT ENACTED by the Senate and General Assembly of the State of New Jersey*, That any person accused, before any court, of selling or offering for sale any article adulterated within the meaning of an act entitled "An Act to prevent the adulteration of food or drugs," approved March 25, 1881, and the supplements thereto, or an act entitled "An act to prevent the adulteration and to regulate the sale of milk," approved March 14, 1882, and the supplements thereto, who shall prove that he procured such article under a warranty, in the form hereinafter set forth, that said article was pure and unadulterated within the meaning of said acts, said person shall be discharged from prosecution; provided, that such proof in defence shall be filed in court prior to the trial of such case and a copy thereof left with the attorney for the prosecutor of the case.

2. *And be it enacted*, That no warranty shall be considered as within the meaning of this act unless in the form hereinafter given, and unless the article or articles warranted shall be specifically named and described in the body of said warranty; and no warranty shall be a defence if the person offering it shall have been notified prior to the sale complained of, that the articles mentioned in said warranty, are adulterated within the meaning of said acts.

3. *And be it enacted*, That any person uttering or giving a false warranty or swearing falsely in relation thereto shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not more than five hundred dollars or imprisonment at hard labor for not more than one year, at the discretion of the court.

4. *And be it enacted*, That the warranty herein provided for shall be in the following form, to-wit:

WARRANTY.

It is hereby warranted that the following described article or articles—are pure and unadulterated within the meaning of the acts of the Legislature of the State of New Jersey regulating the sale of food, milk or drugs.

Signature, _____

Dated at _____, this _____ day of _____, A.D. _____.

5. *And be it enacted*, That this act shall take effect immediately.

EYE PHOTOGRAPHY.—Faiese Greene, a British photographer, has actually produced a picture with only the light issuing from his eye. Having stared for fifteen seconds at a 3,000 candle electric arc only three feet away, he closed his eye and quickly brought it over a sensitive plate at a distance of one inch. The result was a very faint but distinct image of the arc and the carbon, due probably to a momentary phosphorescence of the retina. A second attempt failed, and gas lights proved too weak to produce an effect.

KEEPING TIME.

EASY METHOD BY WHICH A WATCH CAN BE REGULATED.

A simple method of keeping correct time, where access to standard time is inconvenient, is thus explained by the *Locomotive*: "Select two fixed points for a range of observation. If a westerly window can be chosen, which faces any building anywhere more than twenty-five to thirty feet distant, we have as good a post of observation as we can desire. Drive a nail or stick a pin into the window jamb; or, if anything more substantial is wanted, fix a thin piece of metal with a very small hole in it to sight through, in any convenient place, so that you can observe the time any star sets or sinks below the roof of the adjacent building, or whatever may be chosen as the more remote sight. Then choose some well-defined star, the brighter the better, and with your timepiece set right (to start with), observe the time it passes the range of your sight. The exact time, as well also as the date of the observation, should be recorded; then, to find out at any subsequent time how much your watch has varied from correct time, observe the same star, and recollect that it sets just 3 minutes and 55.90944 seconds earlier on any given night than it did the preceding night. Thus, if our first observation was taken some night when the star set at 9 hours, 15 minutes and 23 seconds, and at our second observation, taken just one week later, it set at 8 hours, 47 minutes and 52 seconds, we would know that our watch had kept correct time. If it had set at 8 hours, 45 minutes and 52 seconds, we would know that our watch or clock had lost two minutes during the week. And similarly for any other variation. If the time at which it had set had been 8 hours, 49 minutes and 52 seconds, we should see that our watch had gained two minutes, and so on. If the location of our sights admits of it, we should select a star ninety degrees, as nearly as possible, from the pole star, for its apparent motion will be greater than that of one near the pole, and the liability of error will be diminished. If a suitable selection can be made the error need not be more than three or four seconds, and it will not be accumulative."

LOCAL BEEF INSPECTION.

AN ABLE EXPOSITION OF THE ILLEGALITY OF THE MEASURE.

(From the *Minneapolis Commercial Bulletin*, March 30.)

Those of our readers who read the editorial on "Inspection 'on the Hoof,'" which appeared in these columns a fortnight ago, will remember that at its close we endorsed the bill now before our State legislature in the following qualifying terms:

Hostility to absolute monopoly of any kind is one of the fundamental principles by which the *Bulletin* is conducted. The disadvantages of such monopoly in the long run will more than counterbalance present gains. We think it of the highest importance to the preservation of American institutions that opportunity for competition be always freely secured for our citizens. It is inevitable that a monopoly once firmly established shall become a tyranny. We are, therefore, always ready to give a new venture an opportunity for trial, provided that it promises to do its work well. We should be opposed to opening up petty slaughtering houses again all over the country, but we certainly should favor any legislation that would establish in many localities public abattoirs doing as good work as those of the "Big Four." If "inspection on the hoof" will enable the large slaughtering houses at the St. Paul and Minneapolis stock yards and at other points in the State to prosper, we are in favor of it. We favor the proposed law, however, only on the grounds that it would aid in checking the enormous aggressions of the "Big Four" combine. This growing power should be weakened and local prosperity should be increased, and therefore we say, let such measures as will accomplish these ends be put into operation.

Further reflection, however, leads us to acknowledge, without any lessening of our opposition to the numerous steadily growing monopolizing efforts now being made

in our country, that some fundamental principles upon which the government of the United States is established must not be lost sight of in the discussion of this question so important to local welfare. In the union of these States unquestionably the commonwealths made their compact with one another "for better or for worse." They engaged with one another to accept a common prosperity or adversity, to rise or to fall together. As against any alien State or people they reserved for themselves liberty to restrict or to throw open their commercial intercourse. In relation to the outside world, they can have free trade, establish a limited intercourse or no intercourse at all. Not so with one another. With one another they are as one people, among whom no bars to free intercourse may be erected. No import duty upon Louisiana's sugars by the Commonwealth of Minnesota may be levied; no tax on Wisconsin's lumber can be assessed by Illinois; no tax can be laid in New York upon the flour made in Minneapolis. Free trade is an inter-State right and duty. Legally, therefore, there is no protective measure possible between our own State and that of Kansas or Nebraska upon the meat prepared in the latter places for our markets. The Kansas slaughtering firms have an inalienable right to offer their wares for sale in any community in the United States, dislike the trade who will, be it crippling or not to local traders. In the present agitation, therefore, this fundamental principle of our federal Union must not be lost sight of or violated. The desirability of the development of local interests and industries, however, remains, and the radically pernicious effects of the growth of great monopolies like that of the Chicago "Big Four" meat combine should in some way, if possible, be counteracted. There seems in fact to be but one legitimate, constitutional way by which to meet these needs. If it can be clearly proven that the meat supplied to our markets by other communities is not fit for food, then the right belongs to our people to protect themselves against the deleterious stuff, not as one State against another, but as one people against other people, be they individuals, firms or communities, who are the instruments who do them harm. A State can legislate against the introduction of poisons or of diseases into its cities and households, no matter whence they may come, from within or without its borders. A State can require the inspection within its limits of all things offered there for food. It can refuse to allow the sale there of any thing which investigation proves to be harmful to purchasers. Upon this ground only can "dressed beef" be denied a place in our markets, whatever the locality in the country from which it may be sent. Now if it can be made clear that the beef slaughtering industry of Illinois, Kansas and Nebraska is so conducted that diseased meats are sent out by it to our market, the bill now before our legislature can legitimately become a law, otherwise not. Upon this question only hangs the right of Minnesota to endorse the present agitation in favor of "inspection on the hoof." Our desire and need to build up a local slaughtering industry may be very pressing; our hostility to the aggressiveness of the great "combine" may be well justified, but unless we are justified by sanitary requirements, our adoption of the proposed legislation would certainly be an attempt to violate a fundamental principle by which these States have become a nation. Without this justification it seems clear that the natural course of trade must have its way. Minnesota must be content to try to build up its cattle and slaughtering industries by means of the natural laws of trade, and failing in that, it must, however unpleasant the necessity may be, accept the sway of those who have the capital, skill and opportunity to command the natural channels of production and commerce.

FLYING-FISH.

THE ANATOMICAL ARRANGEMENT WHICH GIVES THEM THE APPEARANCE OF FLYING.

At a meeting of the Physiological Society, Berlin, Feb. 1, Professor Moebius spoke on the movements of the flying-fish through the air. He first described, from personal observation, the way in which the fish shoot out of the water from both bows of the ship, and then propel themselves horizontally for a distance of several ship's-lengths with their pectoral and abdominal fins stretched out flat, skimming along without moving their fins, always in the direction of the wind, but either with or against the same. When they meet the crest of a wave, they raise themselves slightly in the air, falling again to the same extent in the succeeding trough of the sea. Occasionally a slight buzzing of the fins may be observed, similar to that of the movements

of the wings in many insects. At night they frequently fall on the deck of the ship. As the result of a detailed investigation, the speaker had proved that these fish do not fly, since the anatomical arrangements of their fins and muscles are not adapted to this purpose. What really occurs is, that, when frightened by the approach of a ship or any enemy, they shoot out of the water, as do so many other fish, and are then carried along by the wind, which strikes on the under surface of their outstretched and evenly balanced fins. Notwithstanding the general acceptance which was accorded to the above investigation, it was urged by many that the buzzing of the fins, the rising over the crest of a wave, and the falling overboard after having landed on the deck of a ship, were evidences that this fish really executes movements which result in flight. In reply to this, Professor Moebius pointed out that the buzzing of the fins takes place when a strong current of air is directed against the outspread fins of a dead flying-fish by means of a bellows, and, further, that the rising over the crest of a wave or the bulwarks of a ship may be explained by the ascending currents of air which are always produced whenever a strong horizontal wind strikes against any elevated object such as a wave or part of a ship. Thus, finally, with the exception of the movements involved in its oblique sudden exit from the sea, all the motions of a flying-fish when in the air are really passive.

NOVELTIES OF THE SEASON.

SOME NEAT THINGS FOR THE DESK OR CENTRE TABLE.

The following particulars of some handsome articles of home use and ornamentation, which the enterprising manufacturers of New York have introduced this season, are gathered from a recent issue of *Geyer's Stationer*:

A handsomely engraved silver case, opening at one side, is intended for car and bridge tickets.

Just a roseleaf in oxidized silver, nothing more, with the centre cut so that it can be slipped over the edge of a leaf as a book-mark.

An oxidized Mephistopheles, diabolical and leering, lies prone on his face grasping within his extended arms the cylinder of a roller blotting pad.

A sombrero hat, in wood carving, is laid upon its brim. Through the crown a mischievous kitten thrusts its head and paws. Lift up Miss Fuss and an ink well is disclosed.

Of tally cards there is no end. A torchon board with softly shaded border, with fishing-rod and bait-basket in silver embossing, is for scoring the game of progressive angling.

A partly-stripped ear of corn, exquisitely carved, forms a pretty ink set. The upper part of the ear opens on a hinge, disclosing two ink-bottles, while the loosened, curling husk forms the pen tray. Two fluttering owls are lightly poised on the lid.

A convenient little trifle is a combined book-mark and paper-cutter in oxidized silver. The knife represents a curling lily leaf with flower cluster at the base. At the point where the cluster overlaps the knife it is loose and may be slipped over the edge of a leaf, thus making a book-mark.

A cylinder about eight inches in length, of pure, polished ivory, has a quaintly carved dog's head at one end, upon removing which ivory-handled pen, pencil, paper-cutter and eraser are disclosed.

A perpetual calendar is a little Swiss chalet of beautifully grained boxwood, all over which trail flowering vines with birds among the foliage. The colors are laid on under the polish and are exquisitely blended and soft in tone.

A pretty case or bag for playing-cards is made of chamois skin, ornamented with applique work designed to indicate the use of the bag. The lower end is fringed, and the mouth drawn together with bright-colored ribbons.

A dainty little stamp box, for pocket use, is of box-wood with a carrier pigeon in flight on the cover. The peculiar color and metallic hues of the plumage are beautifully brought out, and, tiny as it is, it is a gem of art.

A tally sheet for drive whist shows fanciful outlines of clouds, with playing-cards flying about like snow-flakes, through which Diomedes' horses are rushing at breakneck speed. On the back is a table for the scoring.

Round, graduated leaves of chamois skin, with a loose rosette of ribbon loops, held in place by an oxidized silver owl's head, holding in its beak a quill pen, makes a pretty and ornamental pen-wiper.

Some lovely menu cards are of vegetable parchment, a semi-translucent paper resembling rice paper, but heavier and firmer. The decorations are hand-painted flowers, rustic scenes and marines. One shows a lighthouse on a rocky, wave-washed beach. The lantern is a sparkling little Rhine stone.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

April.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Anchovy, bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, rock-fish, salmon, smelt, whitefish, trout, sturgeon.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

POTATO SOUP.—One gallon water, six large potatoes, one teacupful rice, a lump of butter the size of an egg, one tablespoonful flour, one cup of cream. Chop the potatoes fine; put them in the water with the rice; boil an hour; work butter and flour together; add to soup; boil up well and add cream just before serving. If liked, a small chopped onion may be added and a little chopped parsley.

TOAD-IN-THE-HOLE.—Make a batter as for cakes, with one pint flour and one egg and salt; grease a dish with butter; put lamb chops in it; add a little water, with pepper and salt; pour batter over it, and bake an hour.

OYSTER FRITTERS.—Remove the beards and put each oyster into a tablespoon, and fill with a batter made as follows: One ounce rice flour mixed with two tablespoonfuls of water, one teaspoonful of vinegar, two of salad oil, the yolk of an egg, and a little salt and pepper. Allow the batter to stand, and just before using beat the white of an egg to a stiff froth and mix with it. Fry the oyster covered with the batter in boiling fat, then place it on blotting paper to drain. Serve on a hot dish, and garnish with slices of lemon and thin rolls of brown bread and butter alternately.

BREAKFAST PUFFS.—Sift half a pint of flour, a salt-spoonful of salt and a teaspoonful of Horsford's baking powder together; stir into it gradually a gill of milk. Beat up separately the yolk and white of one egg; add the yolk to a gill of milk, stir this into the flour; now add the white of egg previously whipped to a foam, pour into individual tins and bake in a quick oven.

WATER CRESS SALAD.—Pick the cresses over carefully, removing bruised and imperfect ones. Mince a young onion, mix it with the cresses, and pour over them a plain dressing.

PLAIN DRESSING.—To one part vinegar put four parts oil, pepper and salt.

CHEESE CAKE.—Mix a quarter of a pound of grated cheese, one after-dinner cupful of milk, a little red pepper, nutmeg, salt and parsley; to this add three beaten eggs. Grease then the baking tin and bake the compound ten minutes in a hot oven. This is a very nice dish for either breakfast or supper.

THE DEADLY CIGARETTE.

SOME PRACTICAL SUGGESTIONS OF THE HARMFUL ABOMINATION.

DONE TO DEATH.

The coroner's inquest in Philadelphia into the cause of the death of Lewis R. Robinson, aged fifteen, brought out the fact that it was due to excessive cigarette smoking.

PROBABLY WORSE.

A leading New York physician of wide experience states as his opinion that "as matters are going now, cigarette making rivals the liquor trade in its pernicious influence upon the rising generation."

AN APPROPRIATE PREMIUM.

Cigarette smokers will be interested in the report, not yet confirmed, however, that a certain manufacturer of cigarettes offers a nice cemetery lot to every one who smokes twelve dozen packages of his cigarettes. Probably he wants to make the punishment fit the crime.

THE LATEST DEVICE.

The most recent adaptation of the automatic machine scheme to barber shop and ferry house use bears the label: "Put in a cigarette and take out a gaping idiot."

THE GOVERNMENT AND ADULTERATION.

A THOROUGH INVESTIGATION TO BE MADE.

The Department of Agriculture has entered upon a systematic investigation of the food adulteration question, which it is to be hoped will be maintained until the good work which it contemplates shall have been set further in the way of execution than has ever yet been accomplished. A corps of special agents has been organized, probably small in number, who have already begun to place themselves in communication with manufacturers of and dealers in food products all over the country, with a view to securing detailed information in relation to the prevalence and the manifestations of the adulteration evil. The following circular letter has been sent to the AMERICAN ANALYST by the Hon. J. M. Rusk, Secretary of Agriculture, Washington, D. C., as a sample of the plan of operations laid down for the use of the department's agents:

UNITED STATES DEPARTMENT OF AGRICULTURE.

DIVISION OF CHEMISTRY.

WASHINGTON, D. C., ... 1889.

Dear Sir: Having been appointed a special agent of this department to prepare "a report of a popular character on the extent of the adulterations of food supplies," I am anxious to learn from all reliable sources possible,

First—The extent of adulterations.

Second—The extent of adulterations injurious to health.

Third—The extent of sophisticated goods that are sold as pure.

I am anxious to present a report based upon facts, not conjecture, which will do no injustice to any person or trade, and at the same time show favor to none, and present a true statement of the condition of the matter treated; therefore I ask the various trades en-

gaged in the manufacture of food products to aid me with such data as they can furnish, so as to enable me to produce such a statement as will be of service to the commercial and agricultural interests of the country.

I enclose an addressed and franked envelope for reply. Trusting you will aid us as far as you can conveniently, I am,

Yours respectfully,

Special Agent.

Accompanying the above is a sheet bearing the following interrogatories, with spaces left for writing in the answers:

Please state your

NAME.....

ADDRESS.....

BUSINESS.....

To what extent, if any, does adulteration exist in your trade?

.....

State what adulterants are used?

.....

Are they, or any of them, injurious to health, and if so, which?

.....

What is the estimated adulteration in your trade; what percentage of reduction does it make in the cost of the articles?

.....

What is the relative reduction of the sophisticated articles to the retailer?

.....

And what is the reduction to the consumer?

.....

Are the adulterated articles branded true to name, or are they misbranded and sold as pure goods?

.....

Can you refer me to any positive evidence of adulterations or misbranding of food products in your own or other trades?

.....

Will you kindly give me any further information of a reliable character that will enable me to properly represent your trade in my report?

.....

To FUMIGATE A ROOM.—The simplest way to fumigate a room is to heat an iron shovel very hot and then pour vinegar upon it, drop by drop. The steam arising from this is a disinfectant. Doors or windows should be opened that it may escape.

GLASS-LINED TUBES.—Iron pipes lined with glass are reported to have withstood satisfactorily the severe test of having boiling water passed through them, followed immediately by water, at a temperature of thirty-three deg. Fahr. Subsequent examination showed no cracking or damage to the glass.

WILD SILK COCOONS.—L. G. Wilson, a resident of Jerauld County, Dakota, has made a discovery which, if successful, will be of vast importance to the farmers. He has found that the wild silk cocoons are strong and substantial, and that they can be carded. These cocoons are so numerous that they have to be taken off the trees and destroyed, and, while Mr. Wilson was at this work last spring, he stopped to examine one and found it to be made of strong material. He at once wrote to several silk-workers, and sent samples to one in France, who immediately sent an order for fifty pounds. From this amount the silk-worker will test the value of the cocoons and will report.

BUSINESS NOTES.

HORSFORD'S ACID PHOSPHATE

IN NERVOUS DEPRESSION.

Dr. F. W. Lytle, Lebanon, Ill., says: "I have personally used it with marked advantage, when overworked, and the nervous system much depressed."

A GOOD THING.

A patent has just been granted on an ingenious contrivance, made by Mr. Benjamin D. Milliken, of Somerville, Mass., for the purpose of mixing liquid and powdered substances, where the latter cannot be held in solution. This will be a great convenience to manufacturers of sauces, liquid polishes and the like, where a given quantity of each ingredient must enter every package. The machine is so constructed that an "agitator," revolving in the tank, keeps the contents in perpetual "boiling spring" motion, and at the same time straining the liquid. An additional device measures the quantity required for each bottle, filling the same at the rapid rate of 48 bottles per minute, or 200 gross a day. One of these machines has been in constant use since April of last year, at 140 Commercial St., Boston, where it can be seen by any one interested, pumping Parlor Pride Stove Enamel.—*Exchange.*

ARMOUR'S EXTRACT OF BEEF.

So much care being required in the manufacture of Extract of Beef, it is of the greatest importance to the consuming public that they should know by whom such an article is made, and that the manufacturers are thoroughly reputable and reliable. Armour & Co. bring to the work long experience as packers of every form of beef product. With the assistance of experts thoroughly practiced in the latest developments and discoveries of science as applied to the extraction and concentration of all that is nourishing, sustaining and

palatable in fresh beef of prime quality, they are able to produce an extract superior to anything of the kind previously offered to the public. It is admitted by all the most eminent authorities that Extract of Beef made from the coarse and practically wild cattle of South America cannot possibly equal in substance and flavor that produced from the well fattened and graded beeves of the United States. Chicago is pre-eminently the cattle market of the world; the facilities for obtaining plentiful supplies of raw material and for the selection of fine stock being far ahead of any other place on the globe. The name and reputation of Armour & Co. are widely and favorably known, and this brand on any of the great varieties of hog and beef products manufactured by them is uniformly accepted as a guarantee of quality and careful preparation. We can recommend this extract in the strongest terms as having been made only from the best material, with the most scrupulous care and cleanliness.

Armour's Extract of Beef will keep for any length of time, if, after opening the jar, the cork is replaced, or if the mouth of the jar is merely kept covered.

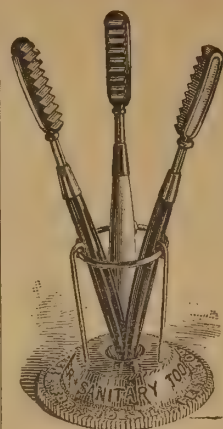
The extract is an invaluable addition to soups made with potatoes, peas, beans, barley, tomatoes, carrots, turnips, or other vegetables, doing away with all necessity for boiling fresh meat or bones with them.

Should bones and marrow be boiled with vegetables to produce a soup, then the addition of a small quantity of extract will increase the strength and very much improve the flavor.

The extract will be found very useful for making or strengthening meat sauces, gravies, etc., and if added to stews, roasts or ragouts, will be found to vastly improve the flavor.

The extract is free from all objectionable smell or flavor, retains more of the actual taste of the beef, and will go further than any other extract on the market.

BRITISH TRUSTS.—Great Britain reports a regular flood of so-called "trusts." During the year 1888 there were formed in that country, according to the London *Statist*, seventy registered trusts with an aggregate capital of \$350,000,000. The present year promises to be equally prolific of trusts, as January and February record the formation of thirteen trusts, with an aggregate capital amounting to \$43,750,000. American grumblers at American trusts will do well to study these figures.



DON'T LET CONSERVATISM, CUSTOM, OR PREJUDICE

prevent your enjoying the now well attested benefits of the

IDEAL FELT Tooth Polisher,

"IDEAL" IN

NAME, NATURE, RESULTS,

as slight familiarity will prove. Recommended by Prominent Dentists everywhere; among them Dr. T. B. Arnold, 127 W. 34th St., N. Y., writes "It has no equal for Polishing the Teeth and Hardening the Gums."

Examine its construction, ascertain its results, and you will use no other.

A Perfect Polisher.

Thorough Cleanser.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

ORIGIN OF THE DOG.—The question of the origin of the dog has recently been discussed by Professor Nehring, who believes that it has descended from various still surviving species of wolves and jackals. The latter animals can be tamed, and many attempts to domesticate wolves have been successfully made in recent times. Herr Ronge has so completely tamed a young wolf that he follows him exactly as a dog might do.

PROTECTION FROM MOTHS.—For the effectual protection of woollen goods against moths the use of cedar wood boxes and closets is insufficient, and it is stated that there is no other means of protection against the ravages of the insect but perfectly to inclose the woollens in material which is not attacked by the moth, such as cotton cloth. Woollen goods brushed clean from dust, folded together and put into cotton bags, which were well tied, have been found perfectly intact when taken out at the change of the season.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHEMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPEREMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.



Tablespoonful
of Pearline
to Pail of Water.

It is better than any soap; handier, finer, more effective, more of it, more for the money, and in the form of a powder for your convenience. Takes, as it were, the fabric in one hand, the dirt in the other, and lays them apart—comparatively speaking, washing with little work. As it saves the worst of the work, so it saves the worst of the wear. It isn't the use of clothes that makes them old before their time; it is rubbing and straining, getting the dirt out by main strength. For scrubbing, house-cleaning, washing dishes, windows and glassware, Pearline has no equal. Beware of imitations, prize packages and peddlers. Pearline is sold by all grocers. 138 James Pyle, New York.

Use
Without
Soap.

CALIFORNIA

Fine Table
Wines

From our Celebra-
ted Orleans
Vineyard.

Grand Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD. New York, { Agents.
C. JEVNE & CO., - - Chicago, }

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Robert Gordon's
TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO,—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,

In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

CONVENIENT TO ALL AMUSEMENTS

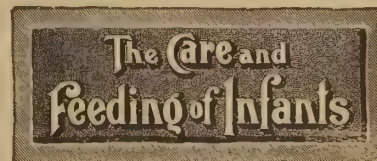
And shopping centres, with over 2,000 horse cars passing daily, and near to elevated, is the Sturtevant House, cor. 29th Street, N. Y. One of the most popular New York hotels.—Mail and Express.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for Dyspepsia, Diabetes, Debility & Children's Food. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES**, Props., Watertown, N. Y.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, COODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

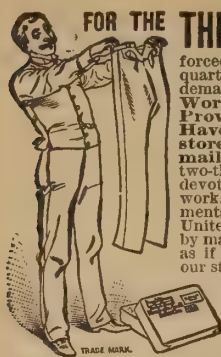
Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?



FOR THE THIRD TIME

in our history we have been forced to move into larger quarters to keep up with the demand from our New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade. We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the famous Custom-made Plymouth Rock \$3 Pants, first, send 6 cents, for which we will mail you 20 sample self-measurement blanks, and linen tape measure. provided you mention this PAPER, or if you cannot wait for samples, tell us about the color preferred, with waist, inside leg, and hip measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. Remember, also, that we make to your order, Full Suits, \$13.25. Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES.—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.



MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides. It deserves to stand in the front rank of constructive, and the constructive by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were **MALTINE**, Corby, Stacey & Co.'s Extract, and Keppeler's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain). **MALTINE** with Phosphates, Iron Quinine, and Strychnia. **MALTINE** with Cod Liver Oil. **MALTINE** with Hypophosphites. **MALTINE** with Peptones. **MALTINE** with Peptin and Pancreatine. **MALTINE** with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct

him in the sale of Harriet Hubbard

Ayer's Recamier Toilet Preparations

and Vita Nuova, should address THE

RECAMIER MFG. Co., 52 and 54 Park

Place, New York City.



LADIES

Enamel your Ranges twice a year, tops once a week and you have the finest-polished stove in the world. For sale by all Grocers and Stove Dealers.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK. WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS.

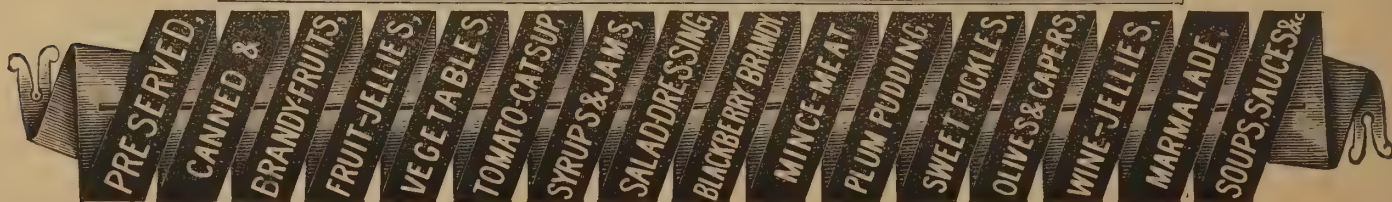
TABLE DELICACIES

GREENWICH ST. NEW YORK

CHOICE & DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

1 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

75 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR HOTELS, CLUBS AND PRIVATE FAMILIES

Beadleston & Woerz

291 W. 10th St New York.

Orders by Postal Card
promptly attended to.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISHER'S PRICE.	DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		
Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

Sura Cura ROBINSON'S SURE CURE FOR RHEUMATISM And NEURALGIA, And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.

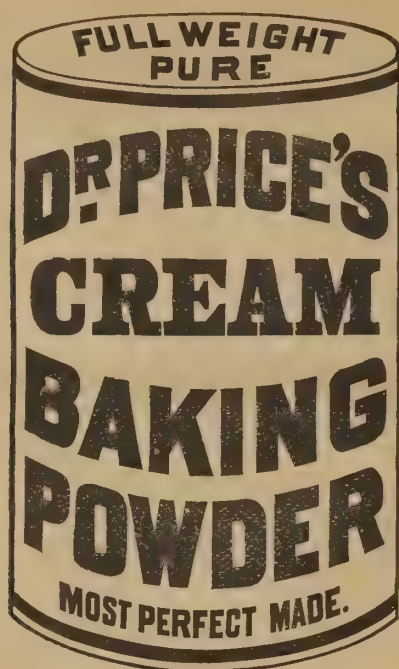


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the [Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

**DEAN'S PATENT
ARDENTER MUSTARD.**

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88

North Moore Street, New York.

COLDEN'S
ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator."
LIQUID
BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, 1 inchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 16.

NEW YORK, THURSDAY, APRIL 18, 1889.

WHOLE No. 112.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Acrophobia.....	184
Breathing.....	182
Correspondence.....	183
Cure for Squeaky Shoes.	
Domestic Dietetics.....	185
Editorials.....	181
Intoxication by Radiation; Harmful Beer; The Cigarette Curse; Oleomargarine Statistics; Sorghum Sugar; Black Snow; The Coming States.	
Egg Lore.....	184
Fraudulent Legislation.....	184
Impossible Gold.....	183
Oysters as Food.....	184
Pure Food Humbugs.....	182
Starving the Teeth.....	182
Water Drinking.....	184
Weather Wisdom.....	184

INTOXICATION BY RADIATION.

Several years ago, as a ferry boat was crossing the Elizabeth River from Portsmouth to Norfolk, a child fell overboard. One of the passengers, an artillery officer belonging to the garrison at Fort Monroe, jumped into the stream and rescued the little one, which was restored to its affrighted mother uninjured, with the exception of a ducking. It was late in the afternoon, and the generous rescuer was able to take passage at once on the Baltimore steamboat for Fort Monroe, on the opposite shore of Hampton Roads, as well as to dry himself in the engine room, while crossing. He was observed to be in a state of marked exhilaration, which increased throughout the passage, so that when he landed at the Old Point wharf, the bystanders were impressed with the opinion that he was considerably under the influence of strong liquor. His friends knew better, though they were greatly puzzled to account for his condition. As a matter of fact, the officer had long been, and continued throughout his life, a total abstainer from liquor in every shape, and what seemed to be

drunkenness on this occasion was in reality merely a singular manifestation of intense excitement. The case was strange, but not wholly without precedent. The subjoined paragraph from the last number of the *Popular Science Monthly* gives several illustrations of men falling into a seeming state of intoxication without having partaken of intoxicating drink. These instances, however, differ from the one related above, in the circumstance that the persons they refer to derived their excitement from proximity to convivial associates, while the artillery officer had come into contact with nothing except water, and that salt, and in excessive quantity.

"A prominent military man who had drunk moderately during the war and had abstained from that time on, while attending a dinner with his old comrades, where most of them were intoxicated, suddenly became hilarious, made a foolish speech, and settled back in his chair in a drunken state, and was finally taken home quite stupid. He had not drunk any spirits and had only used coffee and water, and yet he had all the symptoms of the others, only his was intoxication from contagion. The favoring soil had been prepared long ago in the army. Another case was that of a man who had been an inebriate years ago, but had reformed. He was recently elected to office, and gave a dinner to some friends. Among them was a physician who has been greatly interested in these studies. He sent me a long report, the substance of which was this: On the occasion referred to, many of the company became partially intoxicated, and the host, who drank nothing but water, became hilarious, and finally stupid with them. He was put to bed with every sign of intoxication, but recovered, and next morning had only a confused notion of these events. The third case occurred four years ago. A reformed man, of twelve years' sobriety, went on a military excursion with a drinking company, and, although he drank nothing but lemonade, became as much intoxicated as the others. This event was the subject of much comment and loss to him, socially and otherwise, although he protested, and others confirmed his statements, that he did not take any spirits at this time."

HARMFUL BEER.

In Germany it is a serious offence, and seriously punishable, for a brewer to offer his lager beer to the public until several months have elapsed after its brewing. Unfortunately, there is no such law in this country, and accordingly many brewers have greatly curtailed the time of keeping, and constantly seek for expedients and processes for cutting it down still more, so eager is the market, so uncritical the consumer. Indeed, the American beer drinker has little regard for his liver and kidneys, or he would have stoutly protested long ago. He takes his beer unsuspectingly and without inquiry, till a time comes when, the liver being affected, or the kidneys, or both, nature protests, and the beverage once so pleasing to his lips is like to so much acid. A chem-

ist, recently investigating this matter, says that brewers are using materials other than malted barley, such as corn and oats, etc., mixed with barley and hops, by which they accelerate its manufacture, making a sweetish, pleasing, heady beverage, but alcoholic, and people using this kind of beer in large daily quantities, with the idea that it is innocuous, has brought on a marked increase of renal complaints. This statement was shown to a medical inspector of the Board of Health of this city. He could not say if these particular ingredients were used, but the general charge, he said, was undoubtedly true, neither colored as to the intent of the brewers nor exaggerated as to the effect on the health of the consumer. The Health Department, he said, had not sufficient force to look into this matter just now, so full were its hands with the routine of inspection. If it can be shown the beer is injurious to health, the makers can be held and punished.

THE CIGARETTE CURSE.

An instructive paper was read before the San Francisco Medical Society a few weeks ago by Dr. George F. Shiels, on the uses and effects of tobacco. The habit is discussed exhaustively and yet with a remarkable absence of prejudice and much of the bitter antagonism that it encounters at the hands of a certain class of would-be social reformers is shown to be the outcome of misconception if not of infatuated ignorance. Dr. Shiels recognizes the tendency of writers with strongly preconceived ideas to allow themselves to be biased, and to attribute to tobacco effects that it rarely, if ever, produces. He declares that there is not sufficient evidence for stating that it is capable of causing such diseases as apoplexy, liver disease, or mania, though in connection with that last mentioned, it is possible to conceive that the prolonged excessive use of tobacco might in time be the cause of such change in the nerve cells, which might lead to mental derangement. Still, from its extreme rarity, we may practically exclude it from our consideration. Moreover, regarding the effect of tobacco on morals and religion, there is no evidence to show that, when used in moderation, it has any influence. To state that it leads to the demoralization of armies or nations, or that it is a factor in the production of crime, or of alcoholic intemperance, is to state that which is not founded on fact. This is all true enough, doubtless, in regard to the use of tobacco by adults, but when we turn our attention to the abomination of cigarette smoking and inhalation among the youth, the pale pasty, dwarfed appearance of hundreds of boys one sees in the streets of New York with pipe, cigar or cigarette in mouth, are enough in themselves to show that it is radically harmful to them. Were more proof wanting of this, the books we read and the reports of the cause of rejection of youthful candidates for the navy and training schools of the United States would supply it. Ten out of twenty candidates for cadetship at West Point were recently rejected on account of tobacco heart brought on by cigarette smoking. Unless

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

some means are availed of for checking this disgusting and destructive juvenile habit, we run a risk of natural deterioration, physical, moral and intellectual. Our youth will be stunted and imbecile, and grow up to utter worthlessness and inefficiency.

OLEOMARGARINE STATISTICS.

The Internal Revenue authorities at Washington estimate the oleomargarine production for the current fiscal year at about 45,000,000 pounds, in comparison with 34,000,000 pounds last year, and making an aggregate of 100,000,000 pounds from the time the law went into effect, November 1st, 1886. During the eight months of the fiscal year 1887 the average monthly production was believed by the authorities to be on about the same scale as before the enactment of the law; during the fiscal year 1888 there was a decided increase, and thus far this year the increase has been still greater. The comparison of average monthly production during the eight months of 1887, during the year 1888, and during the eight months of the fiscal year 1889 has been as follows: 1887, 2,711,828 pounds; 1888, 2,860,460 pounds; 1889, 3,750,000 pounds. These figures show an increase of more than 1,000,000 pounds in average monthly production. The Government record is conclusive evidence of the steady increase in the amount of oleomargarine manufactured under Governmental supervision, and issued from the factories under brands and stamps. The extent of surreptitious manufacture and of the use of oleo oil as an adulterant of butter is a matter of speculation, but the public records clearly show that oleomargarine as a legitimate article of commerce is growing in popular favor, and that its consumption is steadily increasing.

SORGHUM SUGAR.

Prof. Wiley, chemist of the U. S. Agricultural Department, has completed his record of experiments in the manufacture of sugar from sorghum, conducted at Rio Grande, N. J.; Kinner, La., and Conway Springs, Douglass, and Sterling, Kansas. The work at Rio Grande, N. J., was carried on to determine whether or not sorghum sugar could be successfully manufactured on a small scale. Prof. Wiley says the result of the two years' trial at Rio Grande shows that all conditions combine to render the manufacture of the sugar on a small scale commercially successful. Prof. Wiley finds that Southern and Western Kansas possess the best soil and climate for sorghum raising so far as is now known. The conditions in Texas, Louisiana, Arkansas, Tennessee and North Carolina are probably equally favorable, but this remains to be demonstrated. The

Indian Territory, he thinks, is destined to be the centre of the industry. The hope of establishing a successful sorghum industry in the great maize fields of the country, he concludes, must now be definitely abandoned. The latest reports show that an average of 194 pounds of sugar is made from a ton of cane.

BLACK SNOW.

A phenomenon that has not yet been satisfactorily explained was witnessed on April 2d at Aitken, Minnesota. Shortly before five o'clock in the afternoon, it became so dark that lights were necessary in business houses, and the air was filled with snow that was as black and dirty as though it had been trampled into the earth. Six ounces of snow and one-fourth ounce of dirt and sand were found in the bottom of a dish. The dirt is very fine, something like emery, and contains particles that have a metallic lustre. This dirty snow fell to the depth of half an inch. The atmosphere at the time presented a peculiar greenish tinge. There was a little wind blowing at the time from the northwest, though there seemed to be considerable wind higher in the air. Solid chunks of ice and sand are reported to have been picked up in various places.

THE COMING STATES.

Some idea of the area of the four new States, Montana, Washington, North and South Dakota, may be gained when we state that it is three times as great as the four British islands, more than three times larger than Italy, more than 150,000 square miles in excess of Germany, and is about equal to the area of the following States: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, Ohio, Kentucky and Indiana combined.

PURE FOOD HUMBUGS.

A VIGOROUS ARRAIGNMENT OF THE "CHROME YALLER" ABSURDITIES.

The Philadelphia *Cash Grocer* makes the following very sensible and apparently much-needed suggestion, to wit: "The pure food people should take an interest in oleo and help along the poor man's substitute for creamery butter and relief from the axle grease variety." This is indeed so. While the pure food agitators, especially the Philadelphia set, are crying over the adulteration of the food of the masses and hysterically shouting "Chrome Yaller," and vigorously inveighing against refined lard and oleomargarine as examples of corrupted food, not a word is said against the use of poisonous acids and chemicals and artificial colors used by the axle grease manipulators, who brand and sell their dirty soap fat as "honest butter," meanwhile joining with the Chrome Yaller crowd in damning oleo. Consistency is an attribute apparently wholly unknown to the anti-oleo pure humbug agitators; for if they were really sincere and honest in their purpose they would quickly and vigorously war on axle grease butter, with a likelihood that if it was prosecuted with one-half the energy they expend on fancied food evils they would soon develop a really popular demand for reform and purity of food which would give it a prestige and power that would culminate in an honest law such as the pure food convention at Washington in 1888 finally recommended, in opposition to the intended one-sided anti-oleo law which the Philadelphia gang and their New York sympathizers hoped to procure under a false pure food clamor. If Chrome Yaller and his immediate sympathizers will cease working their selfish and personal schemes, and unselfishly devote themselves to an impar-

tial investigation and publicity of the dangerous evils and dishonest adulterations of the dairy, they will redeem themselves from a popular disbelief as to their real aims and purposes, and, what is more to their purpose, secure a larger share of public esteem and favor. Besides this, we personally can promise them more tangible practical support and backing than they have yet received or ever will receive. And as a parting suggestion we may add that if they do not soon add renovated and manipulated cow grease to their list of food articles requiring State regulation and inspection, their already fading chances for recognition will be but a memory.—*Prod. Ex. Bulletin.*

BREATHING.

THE QUANTITY OF AIR REQUIRED BY THE LUNGS.

The following anatomical and physiological memoranda will be of interest to our readers, and serve a useful purpose as a matter of reference: "In each respiration an adult inhales one pint of air. Man respire sixteen to twenty times a minute, or twenty thousand times a day; a child, twenty-five to thirty-five times a minute. While standing, the adult respiration is twenty-two; while lying, thirteen. The superficial surface of the lungs, *i. e.*, of their alveolar spaces, is two hundred square yards. The amount of air inspired in twenty-four hours is about ten thousand quarts. The amount of oxygen absorbed in twenty-four hours is five hundred litres (744 grams), and the amount of carbonic acid gas expired in the same time, four hundred litres (911.5 grams). Two-thirds of the oxygen absorbed in twenty-four hours is absorbed during the night hours from 6 P. M. to 6 A. M. Three-fifths of the total CO is thrown off in the day time. The pulmonary surface gives off one hundred and fifty grams of water daily in the state of vapor. An adult must have at least three hundred and sixty litres of air an hour. The heart sends through the lungs eight hundred quarts of blood hourly, and five thousand gallons daily. The duration of inspiration is five-twelfths, of expiration seven-twelfths, of the whole respiratory act. During sleep, inspiration occupies ten-twelfths of the respiratory period."

STARVING THE TEETH.

THE PROPER FOOD FOR BUILDING BONES AND TEETH.

Teeth are just as easily starved to death as the stomach. In one way it is a blessing to have been born of poor patients. What food the poor give their children is of the variety that goes to make strong bones and teeth. It is the outside of all the grains, of all cereal foods, that contains the carbonate and phosphate of lime and traces of other earthy salts which nourish the bony tissue and build the frame up. If we do not furnish to the teeth of the young that pabulum they require, they cannot possibly be built up. It is the outside of corn, oats, wheat, barley and the like, or the bran so-called, that we sift away and feed to the swine, that the teeth actually require for their proper nourishment. The wisdom of man has proven his folly, shown in every succeeding generation of teeth, which become more and more fragile and weak. These flouring mills are working destruction upon the teeth of every man, woman and child who partakes of their fine bolted flour. They sift out the carbonates and the phosphates of lime in order that they may provide that fine white flour which is proving a whitened sepulchre to teeth. Oatmeal is one of the best foods for supplying the teeth with nourishment. It makes the dentine, cementum and enamel strong, flint-like, and able to resist all forms of decay. If you have children, never allow any white bread upon your table. Bread made of whole wheat ground, not bolted, so that the bran which contains the minute quantities of lime is present, is the best. To

make a good, wholesome, nourishing bread, take two bowls of wheat meal and one bowl of white or bolted flour, and make by the usual process. Nothing is superior to brown bread for bone and tooth building. This is made out of rye meal and corn meal. Baked beans, too, have a considerable supply of these lime salts, and should be on your tables, hot or cold, at least three times a week. In brushing the teeth, always brush up and down from the gum instead of across. Brush away from the gum, and on the grinding surface of your teeth.

IMPOSSIBLE GOLD.

HOW THE PUBLIC IS GULLED BY NEWSPAPER FICTION.
MONGERS.

In the subjoined very interesting story, which we reprint from the *Mail and Express*, only one thing is wanting—truth, or even probability. Platinum is the hardest metal, and can only be melted by the oxyhydrogen blow-pipe. If any man were able to melt platinum in sufficient quantities to make such an alloy as is here described at a cost so low as to enable him to sell it at the price of gold, and make a profit, he need not resort to fraud. A handsome fortune awaits that man; but the writer of the paragraph quoted could improve his finances by a few stories of the Rider Haggard stamp:

A few days since, a prominent manufacturer of gold rings, Mr. Julius Wodiska, went to the office of a refiner on John Street to see about the refining of some "sweeps" from his factory. The refiner handed to him a small ingot that looked like gold and asked him: "What is that?" Mr. Wodiska took up the acid bottle from the table beside him and "touched" the yellow surface. The fluid took no effect. Then he rubbed the ingot on the stone kept for testing purposes until a good mark was obtained and put the acid on that. "Twelve carat gold," he replied decidedly as the result of his test. "There is not a grain of gold in the whole ingot," responded the refiner. Mr. Wodiska sat down promptly on the nearest stool and breathed so hard that he got red in the face. He could not believe it. Again he made his tests, this time filing into the ingot for the purpose. The acid made the report as before to his experienced eye, "twelve carat gold!" Then the refiner explained. The ingot had been sent to him, for test, by one of his customers, who had been deluded into buying it, and had grown uneasy when thinking how cheaply he had got it from an unknown man, whose anxiety to effect a private sale of it gave at least a questionable color to his right of possession. The refiner had tried it sufficiently to make sure that it was not gold, and approximately to get at a knowledge of what were its component metals, but had not yet made a sufficiently close quantitative analysis to determine their proportions. He affirmed that it was a mixture of platinum, aluminum, copper and silver. It would seem that very great difficulties must have been encountered in making such a combination, because of the widely different melting points of those metals, but he was sure that those were the constituents of the mass. A piece of the alloy that he had put through the rollers showed that it worked quite as well as gold and was as susceptible of high polish.

Since then the keeper of a small jewelry store on Avenue A has become the unhappy possessor of another ingot of the new alloy. He also bought from a man who had evident preferences for strictly private and quick sales, even if he did not get full gold value, and who volunteered no confidences as to how he obtained the ingot. It looked to the storekeeper like quite a pretty and profitable transaction, until he took his prize to an assayer. How many more victims have been caught already by the modest metallurgist who has invented this seductive material there is no knowing, but they are no doubt numerous. In each of the cases discovered the ingots have been small, such as

would be within the means of the keepers of little shops, and so find ready sale, especially when the seller conveyed the impression that he was a thief and was therefore willing to dispose of the chunk at less than its value. Of course, in a vast majority of instances, the victims would suffer their losses in silence, when they learned how they had been swindled, rather than avow that they had bought what they must have supposed to be stolen goods. The pawnbrokers have yet to be heard from. Doubtless they will bleed as freely on the solid twelve-carat gold ingots as they did at one time on the yellow diamonds dipped in aniline ink, before that trick was discovered. The thing is bound to make big trouble in the tents of Israel if that modest but talented metallurgist is at all industrious. Inspector Byrnes has lying upon the table in his office a big yellow bar of metal that once did duty as a "gold brick," and was the basis of the biggest and most famous swindle of its kind ever perpetrated in this country. It had a real gold corner, that was cut off by the intending purchaser, and that assayed so well that he paid several thousand dollars for the mass, only to learn that he had assayed all there was of it that possessed any value. That was considered a pretty clever trick at the time when it was played, but the new device of having a whole bar of solid twelve-carat (bogus) gold discounts it. And the pawnbrokers and people who buy gold cheap on speculation are not the only ones whom it behooves to take a lively interest in the new metal. Those fields will soon be worked out, but the ability to make the alloy will remain, and the next demonstration of it will be in "solid gold jewelry," turned out by unprincipled manufacturers and sold at cheap prices to the public. There will be no lack of excuses to explain most favorably its surprising cheapness; and who, of ordinary jewelry buyers, can tell that the stuff is not gold when it is so perfect an imitation as to "deceive even the very elect," as one might say?

CORRESPONDENCE.

THE CURE FOR SQUEAKY SHOES.

Editors AMERICAN ANALYST: Squeaky shoes are easily remedied. Have your shoemaker put some powdered soapstone between the outer and inner soles and the squeak will cease.

ONE WHO HAS TRIED IT.

Editors AMERICAN ANALYST: The remedy for squeaky shoes, of which you speak in a recent issue, is to bore two small holes, one inch apart and one-sixteenth of an inch in depth, in the center of the sole of each shoe. Then fill each hole with a drop or two of sweet oil, and let it soak well into the shoe before using. If the shoe still squeaks, repeat the remedy; a squeaky shoe always succumbs to the second dose of sweet oil.

ENVY.

Editors AMERICAN ANALYST: It is the friction of soles that causes all the shoe squeaking in this world, just as it is the friction of souls that causes almost all other sort of squeaking. If the shoemaker will take the trouble to put a little pulverized soapstone between the inner and the out soles of the shoes before they are put together, it will eventually prevent squeaking. I suppose dust of any sort would answer, but soapstone powder is perhaps the best. Publish this to the world, and on your own theory hasten the millennium.

SYMPATHY.

Editors AMERICAN ANALYST: In response to your editorial entitled, "Squeaky Shoes," and in answer to your inquiry, "Cannot some one suggest a method of suppressing the squeaky shoes that are peculiar to this season of the year?" I boldly answer "Yes." You state that "the man who will discover and announce an absolute cure for squeaky shoes will be greater than he

who invents a new religion." I desire to "announce" an "absolute cure," and confidently expect the greatness you so assuredly predict. Squeaky shoes are caused by the vacuum between the insole and the outsole. Treading on the sole of a shoe forces the air out of the vacuum, which produces the sound we call squeak. The proof of this is that a so-called "turned shoe," having no insole, forms no vacuum, therefore does not squeak. A piece of muslin or other similar material, gummed on both sides, which will adhere to the inner and outer sole, thus filling the vacuum, will of necessity prevent squeaking. This applies to shoes in process of making. Now, as to those which are already made—three or four pegs or brads driven in the outsole, between the shank and the toe, will close the vacuum and prevent the squeak.

B. G. O.

POWDERED ROSIN.—Powdered rosin, according to H. Hager, is liable to spontaneous combustion, owing to oxidation by the air, and it should be kept in tightly closed tin boxes.

FRUSTRATED.—St. Peter—"Well, did you go down to earth, take possession of that Infidel named Ingersoll, and walk him into church as I told you?"

Helpful Church.—"Yes, I found him in New York, and I walked him into the Church of St. Thomas; but he had on a suit of ready-made clothes, and the usher kicked him out."

SIMPLE TEMPERING PROCESS.—Some recent trials show that very thin blades, as flat springs and cutlery blades, can be effectively hardened and tempered by heating them and thrusting them into a mass of mineral wax, crude paraffine. The needles of sewing-machines and small drills have also been so treated successfully.

STEEL TIES.—Preparations are now being made to place a section of "Standard" steel ties on the Manhattan Elevated Railway in this city. The application of the "standard" steel tie to the Elevated road, it is expected, will reduce the noise in a very noticeable degree, and that the track will be much more reliable and smoother to ride over; and it is claimed, also, that a very great saving will be shown in favor of the steel tie.

SOAPSTONE COVERING.—Soapstone is largely employed to protect iron from rust, a so-called Chinese soapstone being preferred as a covering substance. In China this soapstone is also used for the protection of buildings made of sandstone that crumble under the influence of the weather. A thin layer of soapstone, in the form of a paint, has also proved an excellent protective covering for obelisks, statues, etc. Soapstone also possesses the property of having a remarkably fine grain, adapting it admirably for use as a coating for ships' bottoms, etc. Ground soapstone is one of the finest of substances, and nothing else will attach itself so quickly and firmly to the fibres of iron and steel. Soapstone is lighter as a covering substance, and, mixed with color to form paint, will cover a larger surface than zinc white, white lead or iron oxide.

SEAWEED PRODUCTS.—Formerly iodine, bromine, magnesia and potash salts were the chief products of seaweed, which was also used, when more or less decomposed, as manure on land adjoining the seacoast (it yields upward of two per cent. of ammonia). Some varieties were collected as articles of food in Scotland, Ireland and Norway, etc. (the species of the genus *Ulva*), and the large species of laminaria, especially *L. saccharina*, can be made to yield mannite. Of late years seaweed has been made into charcoal and into a material for whip-handles, and still more recent the curious substance algin has been produced from it, and is already in use as a stratum for photographic films and for other purposes. From the substance algin, just mentioned, an acid called alginic acid, has been produced, and, by acting upon the latter with nitric acid, a new light-colored dye, which is insoluble in water, but dissolves in alkalies, yielding a brown solution, has quite recently been discovered. The ammoniacal solution of this new product dyes cotton a fine Bismarck brown, which is not removed by soap, and is said to be not only equal to aniline dyes of the same description, but to excel many of them. A curious feature of this new product is that, contrary to what is observed with aniline dyes, it will dye cotton but not wool, and that its acid solutions will not act as dyes at all.

WATER DRINKING.

THE RELATIONS OF WATER TO THE BODILY ECONOMY.

Dr. J. Harvey Dew read a short paper before the Medical Society of the County of New York, January 28, 1889, relating to the importance of water from a physiological standpoint. He would deal with water as an element necessary to the exercise of certain functions, and in the chemistry of animal life. Both laity and profession showed a sad neglect of certain facts about water, the results of which inattention he saw every day.

The chief of these facts were:

1. The body consisted mainly of water, the latter forming in health from two-thirds to three-quarters of its bulk.
2. Water constituted nearly the total volume of the circulating fluids of the body, the blood, lymph, and digestive secretions.
3. It was the vehicle for the processes of digestion, absorption, and transportation of food.
4. It formed a large part of the ultimate tissues, and must be present in every process of assimilation.
5. It served as a vehicle for the circulation of waste matters.
6. Three or four pints (or pounds) of it were needed daily.
7. It could be observed that all thin persons partook scantily of water, whereas all fleshy people drank freely of it.
8. All diseases involved a disturbance of the processes of digestion, absorption, secretion and elimination.
9. A large proportion of the discomforts and troubles of the body arose from a poor performance of the functions depending upon water. It was proper that in health two pints of water should leave the body daily by the kidneys, two by the skin, and one and a half by the lungs, or five and a half total. Water taken at meal time was rapidly absorbed or passed through the pylorus. Lack of water caused constipation, made the secretions tenacious, the circulation defective, and the skin dry, and directly caused dyspepsia. The habit of taking water only in the form of such beverages as tea, coffee and beer, was not a good substitute for the drinking of pure water.—*New York Medical Journal*.

EGG LORE.

SOME BRITISH SUPERSTITIONS ABOUT EGGS.

"To hang an egg laid on Ascension Day in the roof of a house," says Reginald Scott, in 1584, "preserveth the same from all hurts." Probably this was written with an eye to the "hurts" arising from witchcraft, in connection with which eggs were supposed to possess certain mysterious powers. In North Germany, if you have a desire to see the ladies of the broomstick on May Day, their festival, you must take an egg laid on Maundy Thursday and stand where four roads meet; or else you must go to church on Good Friday, but come out before the blessing. It was formerly quite an article of domestic belief that the shells must be broken after eating eggs, lest the witches should sail out to sea in them; or, as Sir Thomas Browne declared, lest they "should draw or prick their names therein, and venificiously mischief" the person who had partaken of the egg. North Germans, ignoring this side of the question, say, "Break the shells or you will get the ague," and Netherlanders advise you to secure yourselves against the attacks of this disagreeable visitor by eating on Easter Day a couple of eggs which were laid on Good Friday. Scotch fishers, who may be reckoned among the most superstitious of folks, believe that contrary winds and much vexation of spirit will result of

having eggs on board with them, while in the West of England it is considered very unlucky to bring birds' eggs into the house, although they may be hung up with impunity outside. Mr. Gregor, in his "Folklore of the Northeast of Scotland," gives us some curious particulars concerning chickens and the best methods of securing a satisfactory brood. The hen, it seems, should be set on an odd number of eggs, or the chances are that most, if not all, will be added—a mournful prospect for the hen wife; also, they must be placed under the mother bird after sunset, or the chickens will be blind. If the woman who performs this office carries the eggs wrapped up in her chemise, the result will be hen birds; if she wears a man's hat, cocks. Furthermore, it is well for her to repeat a sort of charm, "A' in thegeethir. A' oot thegeethir." There are many farmers' wives, even in the present day, who would never dream of allowing eggs to be brought into the house or taken out after dark, this being deemed extremely unlucky. Outhbert Bede mentions the case of a farmer's wife in Rutland who received a sitting of duck's eggs from a neighbor at nine o'clock at night. "I cannot imagine how she could have been so foolish," said the good woman, much distressed; and her visitor, upon inquiry, was told that ducks' eggs brought into a house after sunset would never be hatched. A Lincolnshire superstition declares that if eggs are carried over running water they will be useless for setting purposes; while in Aberdeen there is an idea prevalent among the country folks that should it thunder a short time before chickens are hatched they will die in the shell. The same wiseacres may be credited with the notion that the year the farmer's gudewife presents him with an addition to his family is a bad season for the poultry yard. "Bairns and chuckens," say they, "dinna thrive in ae year," the probable explanation being that the gudewife, taken up with the care of her bairn, has less time to attend to the rearing of the chuckens. Besides the divination practiced with the white of an egg, which certainly appears of a vague and unsatisfactory character, another species of fortune telling with eggs is in vogue in Northumberland on the eve of St. Agnes. A maiden desirous of knowing what her future lord is like is enjoined to boil an egg, after having spent the whole day fasting and in silence, then to extract the yolk, fill the cavity with salt and eat the whole, including the shell. This highly unpalatable supper finished, the heroic maid must walk backward, uttering the invocation to the saint:

Sweet St. Agnes, work thy fast,
If ever I be to marry man
Or man to marry me,
I hope him this night to see.

If all necessary rites and ceremonies have been duly performed, the girl may confidently count upon seeing her future husband in her dreams—dreams which we should presume, as our Yankee friends say, would bear a strong resemblance to nightmare.—*Queen*.

ACROPHOBIA.

THE NERVOUS APPREHENSION OF HIGH PLACES.

Among the many curious psychical experiments that are now attracting the attention of scientific minds, the one to which the term "acrophobia" has been applied, has several points of interest. In referring to the term and phenomena, *Science* for January, 1889, defines it as an exaggerated condition of fear. Dr. Verga has recently described the phenomena in his own case: Though by nature not at all timid, all his courage leaves him when above ground. He complains of palpitations in mounting a step-ladder, for instance; finds it extremely unpleasant to ride on the top of a coach or even look out of a first-story window. This idiosyncrasy forbids him the use of an elevator, and the mere thought of those who have cast themselves down from high places causes tingling all over his person. His acrophobia even goes so far that the thought of the earth spinning

through space is enough to cause discomfort. Persons on a bridge high above the water, or on a cliff, or high up in a tower, are frequently overtaken by not only exaggerated fear, but by abnormal fear producing at times dizziness and even faintness. Another class of individuals are seized with an intense and at times uncontrollable desire to jump down from any height which they may have reached. A greater or less degree of this fear seems quite common, and perfectly compatible with normal mentality.

WEATHER WISDOM.

THE INDICATIONS WHICH FORETELL FROST.

For the benefit of farmers, General Greely, Chief of the U. S. Signal Service, gives the following simple and definite method by which in clear, cool weather, near the period of early or late frosts, a person may determine with considerable accuracy if frosts will occur the following night: "The approach of local frost can be foretold with very considerable accuracy from the readings of properly exposed dry and wet thermometers. A safe and simple rule to follow when the temperature is at 50 degrees, or below, is to multiply the difference between readings of the thermometers by 2.5, and when the sum thus obtained is subtracted from the reading of the dry thermometer, it leaves the approximate degrees to which the temperature of the air will fall the coming night, unless change of wind to a moister quarter or increase of cloudiness interferes. The value and importance of observations of this kind have not been sufficiently impressed upon farmers cultivating crops of a kind susceptible to frost and capable of protection." It may be stated in this connection, that the "wet thermometer" mentioned above is an instrument, the bulb of which is kept moist by its contact with a bit of lamp-wick fed from a small reservoir of water.

FRAUDULENT LEGISLATION.

THE LOCAL INSPECTION BILLS BASED ON FALSE PRETENSES.

The proceedings at Albany have exposed thoroughly the insincerity and pretense of the movement to exclude Western beef from Eastern markets. The bill having this object in view is one of the most outrageous that ever secured prominence. Its manifest unconstitutionality deprives it of a seriously dangerous character, for it could only remain in force long enough to permit a test case to be taken to court. The pretense that the protection of public health demands the enactment of such a law is unsupported by evidence and has no foundation in fact. The idea that the interests of this State can be promoted by such legislation, or can afford to face the consequences of establishing such a precedent, can scarcely be entertained by rational men. The reports from Albany show that the bill has attained a surprising degree of strength, but it cannot be supposed that the Legislature will adopt a measure so pernicious and so utterly devoid of merit or justification.—*N. Y. Commercial Bulletin*, April 8.

OYSTERS AS FOOD.

THEIR NUTRITIVE VALUE COMPARED WITH MILK AND MEAT.

Speaking roughly, a quart of oysters contains, on the average, about the same quantity of active nutritive substance as a quart of milk, or a pound of very lean beef, or a pound and a half of fresh codfish, or two-thirds of a pound of bread. But while the weight of

actual nutriment in the different quantities of food material named is very nearly the same, the quality is widely different. That of the very lean meat or codfish consists mostly of what are called, in chemical language, protein compounds, or "flesh formers"—the substances which make blood, muscle, tendon, bone, brain, and other nitrogenous tissues. That of the bread contains but little of these, and consists chiefly of starch, with a little fat and other compounds, which serve the body as fuel, and supply it with heat and muscular power. The nutritive substance of oysters contains considerable of both the flesh-forming and the more especially heat and force-giving ingredients. Oysters come nearer to milk than almost any other common food; their values for supplying the body with material to build up its parts, repair its wastes, and furnish it with heat and energy would be pretty nearly the same.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

April.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Anchovy, bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, rock-fish, salmon, smelt, whitefish, trout, sturgeon.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

ITALIAN SOUP.—Cut the meat from a knuckle of veal; break up the bones and make a broth of them; cut half a pound of ham in slices, and lay them at the bottom of a stewpan, upon them the meat from the knuckle of veal, with the slices of four carrots, four turnips, a dozen peppercorns, two blades of mace, a large onion, and a head of celery; cover down close; stew till the gravy is drawn out, and the roots are quite tender; then pour over them the broth made from the bones of the knuckle until they are covered; add six spoonfuls of rice, stew four hours, work the soup through a sieve, and add vermicelli before serving.

LOBSTER SOUP.—Chop a lobster very fine, leaving out the fat and coral, after which mix with a teacupful of cracker crumbs, and a piece of butter the size of an egg. Boil three pints of milk and pour on the cracker, then add the lobster and boil.

STEWED LOBSTER.—Chop the lobster into good sized pieces; add to it butter, pepper and salt and a little water; stew for a few moments; thicken a very little with flour, and serve very hot.

BUNS.—Twelve ounces of sugar, eleven ounces of butter, one pint of milk, one-half pint of yeast, one nutmeg, three eggs, one teaspoonful saleratus; make up soft over night.

TEA CAKE.—One pint of flour, three eggs, two table-spoonfuls of butter, two tablespoonfuls of sugar, one cupful of milk, two teaspoonfuls of Horsford's baking powder. Bake in cups.

POTTED SALMON.—Cut a handsome piece from the middle of the salmon; remove the scales, and wipe it with a clean cloth; rub into it some common salt thoroughly; beat up some mace, cloves and whole pepper,

and season the salmon with it; place it in a pan with a few bay leaves; cover it with butter, and bake it until thoroughly done; remove it from the gravy, letting it drain thoroughly; then place it in the pots. Clarify sufficient butter to cover all the pots after the salmon has been put into them. Put it to cool.

TOMATO SAUCE.—Cut ten tomatoes into quarters, and put them into a saucepan with four onions sliced, a little parsley, thyme, one clove and a quarter of a pound of butter; set the saucepan on the fire, stirring occasionally, for three-quarters of an hour; strain the sauce through a horse-hair sieve, and serve with the directed articles.

ALDEN'S CYCLOPEDIA.

Alden's *Manifold Cyclopædia* continues to make its welcome appearance about once a month, and, as it gradually extends its progress along the alphabet, its usefulness for purposes of reference becomes steadily more apparent. It is a novel and very grateful experience to handle a work of encyclopedic scope reduced to such convenient compass. The eleventh volume carries us from Debt to Dominie. The 640 pages are packed with information of just the kind which the vast majority of reading people desire to obtain. Like its predecessors, it is truly *manifold* in its character. In a single volume it gives an unabridged dictionary, and a cyclopædia of information which is ample for practical use, is fully reliable, and is brought down to the present year. Among the articles treated at some length we notice that Debt, with its various sub-heads, has over 7 pages; while kindred topics, as Debtor and Creditor, occupy over 6 pages more. Delaware has about 5 pages; Delirium Tremens, 4 pages; Democracy, nearly 7 pages; Denmark, about 10 pages; Dentistry, about 6 pages; Descent of Man, 6 pages; Development, 11 pages; Diet, 8 pages; Digestion, 23 pages; Diphtheria, 5 pages. There are also a large number of really helpful illustrations. The form of the book is most convenient; the paper, printing and binding are all very good. This is emphatically *the Cyclopædia* for the people, and the extremely low price brings it within the reach of all.

HOLLOW INGOTS.—In Sweden hollow steel ingots are being made by casting steel in molds hung on trunnions, allowing the sides to chill to the required thickness and pouring out the still liquid in the centre. These hollow ingots go to England, where they are drawn out cold to tubing.

PACIFIC MAIL.—Great Britain joins the Canadian Government in a subsidy of \$1,250,000 per annum for fortnightly mail service to China and Japan from Victoria, B. C. Australia and New Zealand will subsidize the service to extend it to Auckland and Australia.

SACCHARINE IN GERMANY.—Secretary of State Von Maltzahn-Goltz has announced that it has been determined to place a tariff on the manufacture of saccharine throughout the German Empire, which will be virtually prohibitory, should it be found that the article is being used for the sophistication of sugars.

AMERICAN SILVER.—The silver circulation of the United States was just about doubled during the last four years. It was \$152,000,000 four years ago, and is now \$304,000,000. The present outstanding circulation includes \$57,500,000 in standard dollars and \$246,500,000 in silver certificates. The total money circulation at the beginning of this month was \$1,404,200,000, being an expansion of \$33,000,000 during the preceding twelve months.

A LARGE DIAMOND.—The "Julius Pam" diamond, which is valued at from £15,000 to £20,000, has arrived in London from Kimberley. It weighs 241½ carats, or fully 90 carats more than that other beauty, the Porter-Rhodes diamond, and was found in the New Jagersfontein United Mine, of which Mr. Julius Pam is principal owner. It is longish in shape, and of exquisite color—a pure blue white. The only larger diamond in existence is the Imperial, but it is said to be inferior in quality to the "Julius Pam."

HONEY CIGARS.—A unique process for flavoring cigars has lately been brought to light in Germany. They are stored for a longer or shorter time, usually a few weeks, in a hive tenanted by bees, and when removed are found to have acquired a most delicious floral bouquet.

MINISTERIAL RISK.—"I'm very glad to have been of any comfort to your poor husband, my good woman. But what made you send for me, instead of your own minister?" "Well, sir, it's 'typhus' my poor husband's got, and we dinna think it just reet for our ain minister to run the risk!"—*Punch*.

FAITH CURE.—A London doctor who despaired of being able to cure a woman suffering from an affection of the face and jaw finally wrote her that he was at the end of his resources, and added that *tempus edax rerum* (time which finishes up all matters) was the sole remedy. His patient, who was seemingly ignorant of Latin, got an obliging apothecary to furnish her with this specific, at the moderate price of 7s. 6d. After drinking several bottles of it she met her physician in London, and astonished him by her gratitude for the invaluable medicine he had recommended to her. The *Congregationalist* relates this story, and suggests that perhaps it was "a strange case of faith cure."

RUBBER SHOE MACHINE.—An ingenious machine has been perfected in Boston to cut rubber soles for shoes in rubber factories. Heretofore these soles have all been cut out by hand and by a pattern. This new invention takes rubber soling in sheets on a glass bed, and by a simple process, with a series of cog-wheels, the sharp knife is in a second's time passed around the form and cuts the sole clean. The different sized pattern can be adjusted in less than twenty seconds, and the machine will cut rights and lefts without changing the gear in the least.

SQUANDERING OF NATURAL GAS.—The *American Manufacturer* prints an article calling attention to the waste of natural gas which is going on in those districts where it has been discovered in abundance and devoted to practical ends. The article gives figures gathered from a certain number of factories in Pittsburgh, and the tables show that from 25 to 35 per cent. of the whole amount of natural gas consumed in these establishments is wasted, either through the use of defective apparatus or the carelessness and indifference of operatives. It cannot be said that there are reliable indications showing that there will be any general failure of the gas supply in the near future, but the dictates of ordinary prudence are all on the side of a consumption which is adequate to the carrying on of business, and not on the side of squandering valuable fuel merely because it is cheap and the supply seemingly inexhaustible.

GALVANIZING WROUGHT IRON.—The *American Machinist* gives the following method for galvanizing wrought iron: The wrought iron is first immersed in a cleansing bath of equal parts of sulphuric or muriatic acid and water used warm. It is then scrubbed with emery or sand, to clean it thoroughly and detach all scales, if any are left; after which it is immersed in a preparing bath of equal parts of saturated solutions of chloride of zinc and chloride of ammonia, from which bath it is directly transferred to the fluid metallic bath, consisting of twenty chemical equivalents of zinc to one of mercury; or, by weight, 640 pounds of zinc to 106 of mercury, to which are added from five to six ounces of sodium. As soon as the iron has attained the temperature of this hot fluid bath, which is only 680 deg. Fahr., it may be removed, and will then be found thoroughly coated with zinc. Care must be taken not to leave the iron too long immersed in this bath, as its affinity for iron is such that it may become dissolved.

NEW WOOL SPINNER.—A crudely constructed wool-spinning machine was exhibited in a model builder's shop in New York last week which has attracted considerable attention from persons interested in the wool industry. The inventor claims that he has solved the problem of continuous ring spinning by positive draft or attenuation. Hundreds of thousands of dollars have been expended by capitalists in experiments and in manufacturing machines in the Eastern States which have proved failures. The principle of the new invention lies in the use of three rollers, two of which rotate first in one direction and then in the other, and yet at all times draw the half-spun wool from the feed-roll. The rollers pass forward and backward, and the twist in the thread is not interfered with. The principle, the inventor claims, is a new one in mechanics. Wool is spun on the machine daily. The inventor claims that his machine will revolutionize wool spinning. He is George W. Shoemaker, of Scranton, Pa.

FINE THREAD.—A Dresden manufacturer has produced thread from the common nettle so fine that sixty miles of it weighs only two and one-half pounds.

HEAT OF GAS.—Fifteen cubic feet of gas will give as much heat as one pound of bituminous coal. Ten cubic feet of air is required for the perfect combustion of one cubic foot of gas.

OIL IS FUEL.—The experience at the Los Angeles, Cal., lighting station with crude oil instead of coal under the boilers, but corroborates what was long since proved. Oil gives an intenser and, above all, a more even heat than coal, not to speak of its convenience.

REPAIRING PIPE.—An ingenious means of repairing a break in a steam pipe consists in binding the break with wood strips, laid close together, and well served around with stout cord or rope, endwise separation being prevented by more rope crossing the break diagonally, and tied so as to draw the broken parts together; on the wood and the cord getting wet with steam, the joints become even tighter than before, as the wood swells and the cords tighten.

TOUGHENING PAPER.—A plan for rendering paper tough as wood or leather has been recently introduced on the Continent; it consists in mixing chloride of zinc with the pulp in the process of manufacture. It has been found that the greater the degree of concentration of the zinc solution the greater will be the toughness of the paper. It can be used for making boxes, combs, for roofing, and even for making boats.

HYDROPHOBIA.

There is one theme of popular interest that, like Banquo's ghost, "will not down," and that is, hydrophobia. The newspapers are never so crowded, even during presidential campaigns, but that they have ample space for stories about hydrophobia and madstones. The subject has a hideous fascination for most persons. And that the interest is in the subject itself, not in any particular theory about, or treatment of it, is demonstrated by the fact that people read with equal eagerness the scientific articles affirming that there is no such thing as hydrophobia, and the accounts of horrible

deaths attributed to it; the circumstantial reports of wonderful cures by madstones, and the contemptuous denials by learned physicians that there is any madstone or ever was any that was a whit more efficacious than a brick; the glorifications of Pasteur's treatment by inoculation for rabies, and the demonstrations that it has killed many and cured none. It seems strange that this interest should exist when, even if the terrible malady is real, and not merely imaginary, there is hardly one chance in a million that any given person will be affected by it. Other dangers, infinitely greater, swarm about us, yet we think nothing of them until they actually assail us. Tens of thousands die annually from diseases caused by impure blood, for each case of imagined hydrophobia, even including under the latter head those in which possible patients are supposably saved by mythical madstones, and yet the much greater danger is generally thought little of until it actually threatens life. There is hardly a disease that dangerously assails a vital organ which is not either caused by an impure condition of the blood or aggravated thereby to a probably fatal termination, if allowed to run its course. And the insidious, hardly observable progress of such maladies, in their earlier stages, until they have taken possession of the entire system, is a characteristic that enhances the peril. The bite of a dog, whether the beast is mad or not, is an incident of sufficiently unusual and forcible character to command immediate and earnest attention. But who thinks anything of danger if his bowels are constipated? "They will be all right to-morrow, no doubt." If they are not, any purgative medicine will do well enough to give them a start. There is the first serious blunder. Nine persons out of ten are indifferent whether the purgative they employ has any cathartic effects or not, if, indeed, they even know that there is any difference between a simple purgative and a cathartic. The result is that they find themselves compelled to habitually resort to purgatives to maintain a merely mechanical action of the bowels, with inevitably bad consequences, while the real seat of their trouble, the liver, is steadily

becoming in worse and worse condition, clogged with impurities, loaded with bile, torpid and inflamed. The kidneys, in an effort to do the liver's work, are overtaxed, and soon become seriously affected. By this time, the blood, laden with effete matter, is carrying the germs of disease and death to all parts of the body; the digestive, assimilative, nervous and respiratory organs are all gradually involved in the complex and comprehensive scheme of ruin, and at length the sufferer recognizes that he is "very sick, indeed."

"An ounce of prevention," said the wise Ben. Franklin, "is worth a pound of cure." When the sluggish bowels demand attention—and the demand should not be neglected until it becomes imperative—see that they are freed, and the liver at the same time stimulated to healthful action by a few doses of Ayer's Cathartic Pills. Then (for, brief as the trouble may have been, it has not failed to already set up a destructive action in the purificatory organs) resort to a light course of Ayer's Sarsaparilla, which is the most potent alternative medicine known, and thereby restore your health by expelling the seeds of disease from the blood and strengthening the vitality.

BUSINESS NOTES.

HORSFORD'S ACID PHOSPHATE IN GENERAL DEBILITY.

Dr. E. W. Hill, Glens Falls, N. Y., says: "I have used it in cases of nervous and general debility, and always with success. I consider it an excellent remedy for atonic dyspepsia, or any low state of the system."

ARMOUR'S MEAT EXTRACTS.

The merits of Armour's Extracts of Beef met with a gratifying acknowledgement at the Pure Food Exhibition, held at Philadelphia during the present month. Although there were several competitors (including the imported Liebig), Armour's Extract was declared the finest, and secured the highest and only award.

LOOK OUT for Imitations and Substitutes OF *Horsford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

J. HENRY HENTZ.

J. P. ROBINETT.

J. HENRY HENTZ, Jr.

ESTABLISHED 1793.

WHITE, HENTZ & CO.,

SOLE PROPRIETORS OF

Trimble and Pennsylvania Monogram Whiskies.

222 and 224 NORTH SECOND ST., PHILADELPHIA.

D. LIEBER, 17 South William St., New York. Col. H. A. SELIGSON, 1200 Pennsylvania Ave., Washington, D. C.

AMERICAN AND EUROPEAN PLANS.

When you go to New York, stop at the Sturtevant House, Broadway, cor. 26th, near elevated. Moderate prices, central location.—Post.

CALIFORNIA

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Harvathy & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pittings, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST,

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

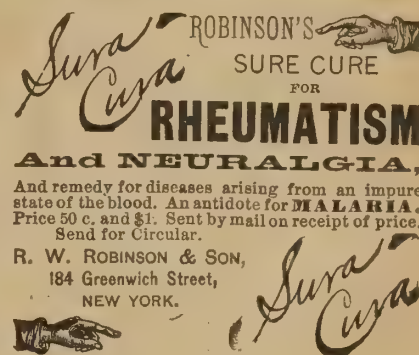


Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.



THE LABORATORY.

To Inventors, Manufacturers and Applicants for Patents

The AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable.

Address, AMERICAN ANALYST,
19 Park Place, N. Y.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the [Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

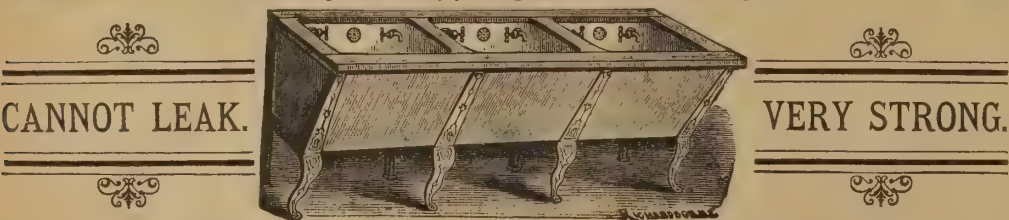
AMERICAN ANALYST CLUB RATES.

	Regular Price.	Price including American Analyst.		Regular Price.	Price including American Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,
19 Park Place, New York.

STEWART CERAMIC CO.,
312 PEARL ST., Cor. Peck Slip, NEW YORK.
Sole Manufacturers under Morahan's Patents of
SOLID WHITE CROCKERY STATIONARY WASH TUBS
Warranted by us for thirty years against injury (violence excepted).



This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top,
SMOOTH GLAZED SURFACES. ALWAYS CLEAN.
The only solid white crockery Wash tub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.
SOLID WHITE CROCKERY SINKS
Made of same material as the Tubs and fully as strong.
Send for Illustrations and Price Lists. Send for Illustrations and Price Lists.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

MALTED MILK
THE ONLY FOOD
For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT
A SINGLE ADDITION.

MALTED MILK does not have to be cooked.
MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.
MALTED MILK will not spoil in hot weather.
MALTED MILK is always ready for immediate use night or day, when traveling or at home.
MALTED MILK does away with the danger of using sour or impure milk.
MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.
Ask your physician his opinion of **MALTED MILK**, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00
Extra Large Glass Jars for hospital and family use, . . . \$3.75
These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.
RACINE, WISCONSIN, U. S. A.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

FROSTED GLASS—A good imitation of frosted glass may be produced by applying to the glass a saturated solution of alum in water. It may be colored by the addition of aniline dyes. The coloring is not very permanent, however.

DRIED POTATOES.—In the *Voenna Sanitarnoie Delo* Dr. Jakov M. Shmulevitch emphatically draws attention to dried potato as an important food article, possessing some very valuable advantages in comparison with the vegetable in a fresh state. The advantages claimed for the article are these: (1) While fresh potatoes easily rot, blacken and sprout, dried potatoes, when kept duly protected from moisture, remain in the best condition for a very long time; and (2) being by far lighter and less bulky than fresh potatoes, are by far more convenient for preservation and transportation, which point has a great practical importance, especially in time of war. To be fit for culinary use the article requires a preliminary maceration in water for ten or twelve hours.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In *dyspepsia* and *loss of appetite* its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis* and other wasting diseases, *Nervous Prostration*, *Constipation*, *Inanition*, *Malnutrition*, *Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.
Acidi Phosphorici aa, grains, ss.
Antipyrin.
Ext. Apii. Grav. dulc. (Celery), aa grains, j.
Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in *Headaches*, *Neuralgia*, *Insomnia*, *Neurasthenia* and general *Nervous Irritability*, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

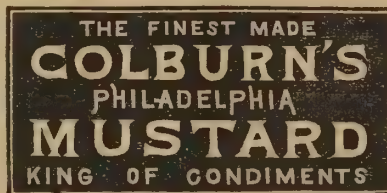
We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	WITH PUBLISHER'S PRICE. ANALYST.	DIGEST AND PRICE. ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar-		
cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical		
Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE

VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Leading Numbers: 14,048, 128, 130, 135, 333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

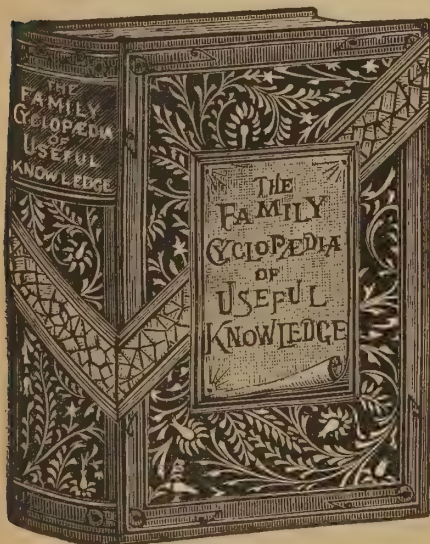


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 90 years use in Great Britain and the U. S. A sustaining, strengthening diet for invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO. Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

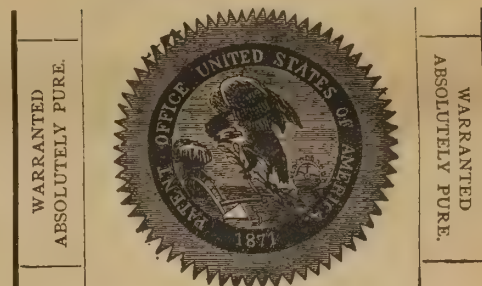
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

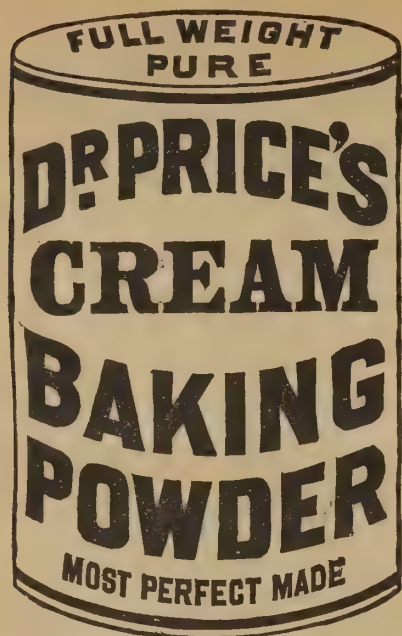
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans.

PRICE BAKING POWDER CO.
NEW YORK. CHICAGO. ST. LOUIS.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

As I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,
115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

How is your Baby?

Fat and happy, or lean and fretful, from insufficient nourishment?

RIDCE'S FOOD

produces bone and muscle as no other food does.

STERLING BAKING POWDER



MADE FROM
99.8% PURE CREAM TARTAR.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.

STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

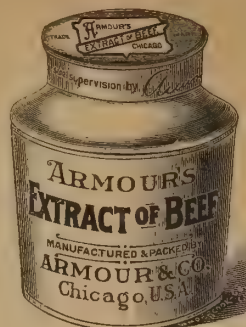
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 17.

NEW YORK, THURSDAY, APRIL 25, 1889.

WHOLE No. 113.

American Analyst, PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

American Lard	196
Banana Culture	197
Boston Beef	196
Chemistry's Triumphs	194
Cheap and Poor	196
Crushing a Counterfeit	197
Domestic Dietetics	198
Easter Eggs	195
Editorials	193
Congress of Applied Mechanics; Suicidal Legislation; Bribing the Inspectors; Dairy Adulterations; A Good Word for Tobacco; The Carrion Traffic; Emotional Journalism.	
Frue or Meat	196
Micro-Organisms	196
Nature's Forces	195
Retort Courteous	194
Time Measurement	197
Trusts	198

CONGRESS OF APPLIED MECHANICS.

There will be held this summer in Paris at the Conservatoire des Arts et Métiers, an International Congress of Applied Mechanics, under the patronage of a Committee of Honor, comprising savants and engineers of renown both from France and from other countries, who will give the work of the Congress the benefit of their influence, and the weight of their authority. The President of the Committee on Organization is Monsieur Phillips, ex-Inspector General of Mines. The five members appointed from the United States are, in the order of their mention on the official bulletin, Messrs. Robert Grimshaw, President, Polytechnic Section American Institute, N. Y.; R. H. Thurston, Director, Sibley College of Cornell University, Ithaca; Professor Egleson, Columbia College School of Mines, N. Y.; and the Presidents of the American Societies of Civil and of Mechanical Engineers. At this Congress, among the

important subjects submitted for discussion are the unification of the horse-power; the choice of materials in machine construction, transmission to a distance, and distribution of work, by other means than electricity, (water, air, steam, cables, etc.); automatic cut-off engines with several successive cylinders; thermo-motors other than the steam engine. Other topics, treated by papers, will be improvements in steam engines since 1878; progress among associations of owners of steam appliances; and improvements in apparatus for the generation of steam, more particularly sectional boilers.

SUICIDAL LEGISLATION.

The Minnesota Legislature, on April 12th, passed the Meat Inspection Bill providing that all meats exposed for sale in the State must be taken from animals inspected alive within the State twenty-four hours, or less, before slaughtering. The real purpose of the measure was to exclude Chicago and Kansas City dressed beef from sale in Minnesota, but a thin disguise of its intention on fictitious grounds of sanitary precautions against the marketing of diseased meat was imparted to it in order to invest it with some attributes of constitutionality. The result was promptly seen in the advance of twenty-five per cent. in the price of beef in all the important markets of Minnesota within three days after the passage of the bill. The consumer in the few States that adopt similar restrictive laws, will probably have occasion to inquire into the motives that actuated his Assemblyman or State Senator in legislating him into increased expenses before the arrival of the next election day. The Minneapolis *Commercial Bulletin* is outspoken in its deprecation of the unwise action of the Minnesota lawmakers. It concedes the desirability of stimulating, by all proper methods, the live stock and meat industries of that State, but it "cannot welcome or endorse this legislation. The free commercial relations and obligations of this commonwealth to the other members of the Federal Union are of the most sacred character, and should, at even considerable loss to us, be preserved inviolate. It is clearly possible that the precedent established by this legislation may react upon us with disastrous force. It is probable that it may induce a feeling of alienation from which grave harm to some of our interests may at some time come. The State of Minnesota has allowed itself, in several directions during the past few years, to seek its own advancement in ways that have proved not only ineffective, but in the end harmful to itself. Our railway legislation has been bad both for the railroads and ourselves; our lien law, at length declared unconstitutional, worked long enough to alienate foreign confidence and capital from us and make us a 'horrible example' to other States; our proposed usury law, fortunately now killed in the Senate, was but another effort of our shortsighted selfishness; our single tax coquetry, happily stopped, was but another symptom of the evil at work in our present inconsiderate public ambition." But the effect of this system of class legislation is likely to extend over a wider and more harmful scope than our

Minneapolis contemporary calls attention to. The truthless pretence set up by the advocates of these measure that the Western dressed beef is liable to be diseased, may, if not peremptorily checked, deprive us of our extensive and increasing British export trade in dressed and canned beef in the same manner that France and Germany have been lost to us as markets for our hog products. Great Britain is almost the only market for our large surplus of beef cattle, and already an apprehension has arisen there of our live cattle injuring their native herds, so that legislation compels the slaughter of all imported beef cattle at the port at which they are landed. Our dressed and canned beef, on the other hand, are regarded more favorably and are freely and welcome admitted. It will not be difficult, however, for insane legislation, such as the Eastern beef raisers and retail killers are so strenuously urging, with the support of a subsidized or careless press, and the occasional connivance of an unthinking minority in the cattle growing regions of the West, to cast such a cloud of suspicion upon our dressed meat product as will evoke some Parliamentary enactment for its exclusion from Great Britain. If we persist in denouncing and slandering our own products it is only reasonable to expect that foreign purchasers will some day take us at our word and refuse to longer buy of us. The consequence of such a step would be disastrous and far-reaching.

BRIBING THE INSPECTORS.

The announcement was recently made at a public meeting that the meat inspectors are not discharging their duties in the manner they should. It was further stated that a member of the Central Body not long ago discovered an alleged butcher who was displaying meat which was wholly unfit for human food, and when the member said that he would complain to the meat inspector, the alleged butcher replied: "Oh, that's all right; I'm solid with the inspector," or words to that effect.

The above is from the *Butchers' Advocate*, of this city, appearing in its issue of April 17th. It would be interesting to the consumers and householders of New York to know to what extent the constituents of the *Advocate* carry on this contraband traffic in meat "wholly unfit for human food." That the amount of poisonous food thus foisted upon our citizens is of considerable magnitude is shown by the fact that the authorities have found it necessary to impose a check upon it by the appointment of a corps of inspectors, who are supposed to prevent its sale. The butchers, however, are too shrewd to submit to such restrictions; and, according to the *Advocate*, they overcome the inspection by bribing the inspectors—a proceeding modelled on the methods of Jacob Sharp, with which some of our New York butchers are but too familiar. It would be a smart thing now for the Legislature to adopt the *Advocate's* insane advice to increase the functions of these notoriously purchaseable officials by excluding from our markets all beef except such as is slaughtered in this city, and inspected before slaughter. The public would



ROCK CANDY and ROCK CANDY SYRUPS.

For use at the Soda Fountain and in all Pharmaceutical Preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

soon be constrained to renounce the use of beef absolutely if it were obliged to depend upon the honesty of the *Advocate's* constituents. The greatest safeguard we have against these combinations of knavish butchers and bribe-taking inspectors is in the use of the Western dressed beef, which is so carefully managed that not an ounce of it is ever offered for sale in unfit condition. To what a fever of ungrammatical frenzy the *Advocate* would be subjected if the poisonous swindle in which its friends have been detected had been associated with the handlers of dressed beef! This "local inspection" business is a hollow sham as it exists, and it would be the height of absurdity to extend its scope to cover the whole supply of every city in the State.

DAIRY ADULTERATIONS.

The Secretary of the Home and Foreign Produce Exchange of London, recently notified the Secretary of the Chicago Produce Exchange that American dairy products are in danger of being excluded from the English markets, under act of Parliament on account of adulteration. The London Exchange Secretary says as it is of the utmost importance to the future of the trade that American cheese and dairy products continue above suspicion, the matter calls for prompt action. The Secretary of the Chicago Exchange has forwarded copies of this letter, together with other facts, on the prevalence of dairy adulterations, to the Legislatures of the various States, and efforts will be made to secure the passage of bills in all Western and Northwestern States for the prevention of fraud in the manufacture and sale of adulterated dairy products.

A GOOD WORD FOR TOBACCO.

The effect of the habitual use of tobacco on the health is the subject of an interesting and significant paper by Dr. F. H. Bosunth, published in the *Medical Record* of this city. The writer calls attention to the fact that the Anglo Saxon races have been using tobacco for smoking and chewing purposes during the past four centuries. They contracted the habit from a race which, as far as history and tradition teach us, were remarkable for their vigor of body and mind as well, and, as far as we know, were an unusually long-lived people. In the time that we have been using the weed there is no evidence to show that the race has in any way deteriorated, but, on the contrary, it is abundantly shown that the average duration of life has increased nearly 50 per cent. There is no evidence to show that in this time the race has been more subject to disease, but rather that they are less so. There is no evidence to show that the race has lost anything in its intellectual activity, but, on the contrary, it has been a time of most marvel-

ous fecundity in all that is great in literature. Dr. Bosunth, while not advocating the use of tobacco, is opposed to the wholesale denunciation of "the weed" maintained by some extremists, his experience showing that as a general thing it is innocuous, and in cases where its use is at all baneful the sufferer is himself conscious of the fact, and controls the remedy. Briefly, the object of the essay is not a plea for the use of tobacco, but simply to suggest whether we had not best abandon the idea that it is a drug whose use is pernicious in every way to body, mind and morals, and rather to take the view that it is one of God's good gifts to man.

THE CARRION TRAFFIC.

The Board of Health is making a great mistake when it refuses to make public the names of men who are caught selling diseased and unwholesome meat. The mere excuse that it will injure the business of these men is not sufficient, and is only placing a premium on their dishonesty. If the carrion had not been seized it would have been sold, and any man who will expose it once for sale will do it again.

The above confession quoted from the organ of the anti-dressed beef faction of this city affords startling evidences of what the New York public might expect if the machinations of that unscrupulous element should prevail, to the exclusion of the better imported article. The "diseased and unwholesome meat" in the New York market is exclusively that which has been subjected to only "local inspection," and the poisoners who sell it to the unwary and confiding public are from the ranks of the men who have been bellowing so loudly in opposition to the carefully-inspected and refrigerated dressed beef from the West. The excellence of the latter prevents competition, but if its sale should be prohibited by law, the knaves would have full swing. They should be made to swing after another fashion.

EMOTIONAL JOURNALISM.

Whenever the editors of the *AMERICAN ANALYST* demean themselves as gentlemen should, we will be ready to discuss, in a spirit of inquiry, the questions on which we differ; but we do not intend to waste the space of *The Record* in replying to blackguardism and drivels. If we were to reply to a recent editorial of that paper in the same vein in which it was written, we would say: The editors of the *AMERICAN ANALYST*, a bob-veal sheet emitted in New York and committed to the task of boosting the manufacturer of a fraudulently labelled compound, are as insolent as they are illogical. One of these unique specimens of metropolitan brass writes M. D. after his name; both of them have earned the right to use A S S.

The above sweet effusion is from the *Record*, of Allegheny, Pa., of April 13th. It reads like an extract from that other famous specimen of rustic journalism, the *Arizona Kicker*. We are lost in abysmal wonder as to what the *Record* could achieve in the line of blackguardism if it should ever change its mind and give vent to its evident native genius for scurrility.

CHEMISTRY'S TRIUMPHS.

THE ARTIFICIAL PRODUCTION OF SUGAR, COFFEE AND COCAINE.

The problem of producing cane sugar synthetically, through still far removed from the point when it can be used practically, has been brought another step nearer solution by the continued researches of Emil Fischer, in conjunction with Julius Tafel. In a recent paper, published in the *Berichte* (1889, 97), they give the results of their researches, the most remarkable of which is that they have succeeded, for the first time, in producing a sugar which can be fermented by yeast, like the natural sugars. The only difference from the latter is this, that the artificial sugar is optically inactive, but the discoverers hope to obtain optically active sugars by

means of fermentation. The new sugar has, provisionally, been called *acrose*. The starting point is glycerine, from which, by way of its decomposition product, *acrolein*, two new kinds of sugar: $C_6H_{12}O_6$ had already some time ago been prepared by the authors, by means of treatment with baryta or alkalis. One of these sugars had been designated *alpha-acrosazon*. It has now been found that this latter may be partly converted, by means of hydrochloric acid, into a new substance, resembling glucoson, which the authors term *alpha-acrosan*. When this is treated in a dilute aqueous solution, with zinc dust and acetic acid, it is completely reduced inside of one hour. The mixture is then treated with hydrosulphuric acid, the precipitate filtered off, and the filtrate evaporated in a vacuum. The residue is dissolved in absolute alcohol, the solution filtered, and the filtrate, after being highly concentrated, mixed with much ether. This precipitates the new sugar, *acrose*, in colorless flakes, which soon change to a syrup, and has the greatest resemblance to natural sugars, having a sweet taste, reducing Fehling's solution, and responding to other tests characteristic of sugars. Merck some time ago announced that he had succeeded in producing true salts of caffeine with citric, cinnamic, and hydriodic acids, which did not decompose or split up when coming in contact with water. It will be remembered that Prof. J. U. Lloyd (see *New Rem.*, 1881, 38) succeeded in preparing crystallized caffeine citrate, but this salt did not bear solution in water without decomposition. In what manner Merck succeeded in producing a permanent salt is not stated. But the citrate, as now available, is stated to be soluble in 30 parts of water at 42° C. Alfred Einhorn has succeeded not only in making cocaine, the alkaloid of coca leaves, artificially from benzoyl-ecgonine, by introducing into it the methyl group, but he has also found that a whole series of other "cocaines" may be obtained by causing other groups to enter instead of the methyl group. In a recent paper (*Ber. d. deutsch. chem. Ges.*) he announces and describes three such compounds, one of which is the lower homologue of true cocaine, while the others are metameric or higher homologues. Two of these could not be obtained in a crystalline form, but only in form of oil. The third, however, as well as the salts of all three, are crystallizable. Whether any of these new "cocaines" possess special therapeutic properties has not yet been ascertained, or at least not been announced. It is not improbable that some of them will be found serviceable.

A RETORT COURTEOUS.

WESTERN DRESSED BEEF DESIRABLE FOR ITS QUALITY AND CHEAPNESS.

The following article from the *Merchants' Mail* of Albany, of April 12th, gives a candid explanation of the reasons which actuate the honest portion of the New York press in opposing the "local inspection" imposition:

The *Butchers' Advocate* of New York goes into a fit because the *Merchants' Mail* and the *AMERICAN ANALYST* see fit to defend Western dressed beef. We are of the opinion that the two papers mentioned above are abundantly able to take care of themselves against such rantings as the *Butchers' Advocate* sets forth from week to week. We do not pretend to speak for the butchers of New York city and Brooklyn and never have. We do pretend to know something about the butchers up this way, and know just what we are talking about when we say that, when one butcher can be found who sells home dressed beef ninety will be found who sell Chicago dressed beef. These are cold, hard facts, and the *Butchers' Advocate* or any other paper or persons can't deny them and do it truthfully. The *B. A.* will put that in its pipe and smoke. A few more facts, however, may not be amiss for the *B. A.*, and here they are: Before we had dressed meat the price of home dressed beef was whatever the ring saw fit to make it. No need of going further than West Albany to verify the above

statement, and every butcher in Albany, Troy and vicinity knows it. An accident, blockade or delay of any kind would result in the ring putting up the price of meat. The consumer was never consulted in such cases. It wasn't for the interest of the ring to consult anyone outside of their own circle. The butcher could pay the price demanded or let it alone. Do we have such scenes now as were daily enacted at West Albany some years ago? By no means. Why? Western dressed beef made its appearance and it acted as a lever in keeping the price of home dressed beef down, and at the same time affording the butcher better profits and the consumer better meat at a lower price than he ever had before. These are facts. Who is anxious for the passage of this bill outside of some of the large wholesalers and butchers of New York city and Brooklyn? No one, unless it is an isolated case here and there. Pass the bill, and what would be the result? Why, the price of beef would take such a jump as would astound even the members of the Legislature themselves. New York State cannot raise one-twentieth of the beef that is being daily consumed. To carry out the spirit of this bill cattle would have to be transported here on the hoof. That means an advance in the price, because it is cheaper to transport dressed beef than the live stock. New York State not being able to supply her own demand asks, or rather the advocates of this bill ask, that live stock shall be brought here which, as shown above, must increase the price. We believe the consumer has rights in this matter that the Legislature is bound to respect. The tendency to-day is towards the formation of Trusts, and especially in food articles, and the poorer classes are the ones who are forced to stand it. We believe, and there are many eminent persons who are of the same opinion, that there is more danger of the cattle becoming diseased in transit than when they are killed in the West and the meat sent on as at present. It has always seemed to us one of the most humane things that ever occurred when Western dressed beef made its appearance. The suffering caused by the treatment that cattle formerly received while in transit was a disgrace to human beings. At the present time the counties of New York, Kings, Queens, Westchester and Richmond are quarantined on account of the existence of pleuropneumonia, and yet, in the face of this, some desire to keep out of our market a better article than our own. "It is the greatest kind of a Trust," the advocates of this bill exclaim. Well, we will acknowledge that Western dressed beef is a trust. We will favor any Trust that keeps the price of an article down, and this is what Western dressed beef does. Its opponents, however, want a Trust that puts the price up. Between the two Trusts we prefer the Chicago dressed beef one for the reasons enumerated above."

EASTER EGGS.

HOW TO COLOR AND DECORATE THEM.

The custom of giving eggs as presents about Easter time is ancient and wide-spread, but its true origin is lost in obscurity. In England it has been revived of late years, and the shops at Easter are full of prettily-dyed ornamental eggs of all descriptions and of various prices, many of the more expensive ones containing valuable gifts. A basket or dish of freshly-boiled and colored real eggs placed on the breakfast table on Easter morning is, however, preferable to imitation eggs, whilst the preparation of them will give pleasure and occupation to the younger members of the family. There are many ways of coloring the eggs; logwood-chips, if used in small quantities, will cause the eggs to assume a port wine color, whilst if more chips are added the eggs will be black. It is impossible to say the exact quantity of chips required, depending on the quantity of water used, but it can easily be ascertained when the liquid is sufficiently dark by taking up a little

in a spoon before putting in the egg. For brown eggs, boil them in strong coffee; for yellow eggs, in onion peelings. Cochineal will make eggs any shade, from a deep crimson to a lovely pink, according to the quantity used. Another way of coloring eggs is to wrap the eggs up in pieces of silk of different shades; place them carefully in a saucepan containing plenty of warm water in which has been dissolved a lump of common washing soda, and boil for an hour. Then remove the silk covering, and allow the eggs to cool gradually. When sufficiently cool to hold in the hand, rub each one over with a little butter or pure lard, which gives to them a nice bright look. Be careful not to crack the shells when boiling the eggs, or the color will boil through into the egg, thus spoiling it and making it unfit to eat. Eggs may be made to assume a sort of marble appearance by boiling them in a piece of tartan silk, or in several pieces of colored silk sewn together, and tightly wrapped round the eggs. Bought dyes, such as Judson's, may be used as well for coloring the eggs, but are not so effective and bright, nor so amusing to use. A pretty effect may be obtained by daubing the eggs here and there with grease before boiling them, or dipping them into the boiling dye. Wherever the grease is, the dye does not take, and therefore they come out spotted or striped, or with other devices, as the case may be, or the name of the intended recipient of the egg may be written on it in the same manner, when it will appear afterward quite distinct. In dyeing eggs, care should be taken to use only one spoon, and that an old one; an old saucepan should also be used, and will answer the purpose perfectly if previously thoroughly cleaned. Some of the prettiest eggs are coated with gold and silver; this is not difficult to do. Boil the eggs for an hour in plain water only; then, when quite cold, rub them all over with painters' size. Procure some gold or silver dust, such as bookbinders use; put it in a saucer or plate; roll the eggs gently one at a time till the egg is entirely covered. Or the egg may be first colored, and a name, a date, or any other device be put on in the same manner with the size and the dust. Gold and silver leaf can be used if preferred instead of the dust, but is more troublesome to manage.

NATURE'S FORCES.

TRANSFORMATIONS OF THE SEVERAL FORMS OF ENERGY.

As far as we know at present, the simplest forms of matter—the elements—are distinct entities, and incapable of being transformed into one another. They unite among themselves to form all the innumerable substances of which the universe is made up, but in themselves are unchangeable and indestructible. A piece of iron, for instance, can never be changed into a piece of copper, or a grain of hydrogen gas into oxygen. Neither can we destroy or annihilate a single atom of these elements. There is just exactly as much hydrogen, oxygen, iron, copper, etc., in the universe as there has been in all the past ages, and exactly the same amount will continue to exist to all eternity, although their combinations with themselves and other elements may be altered an infinite number of times. Until some future investigator, in following certain clues at present but dimly perceived by us, discovers that the elements are but modifications of one primal form of matter, we must continue to believe that they are unchangeable. When, however, we turn to the different forms of force, or energy, by which, with matter, the universe reveals itself to our senses, we find a very different state of affairs. Heat, light, electricity, chemical action, magnetism, force, or work, are all readily changed from one to the other with the greatest ease. Let us take, for instance, an electric station, and follow the transformations of energy there produced. In the first place, we find chemical action taking place in the furnace connected with the steam boiler and engine. Carbon is being oxidized, or burnt, and this chemical energy is

transformed into the heat energy of the fire; the heat energy is changed to force, or work energy, in the boiler and engine; the work energy turns the dynamo machine, and is changed, first into magnetic energy, and then into electric energy. The electric energy passes out through the wires, and is changed into light energy, by the arc and incandescent lamps; or, if it enters an electric motor, it again goes through the changes of magnetism and work, and is finally dissipated as the heat of friction. If the current is employed in an electro-plating bath, it is converted into chemical energy once more, and the circle of transformations is complete. Nearly all the different forms of energy of which we make use in our daily life originate in the chemical action of the combustion of wood or coal. This we transform into heat, to warm our dwellings; into light, to illuminate our cities and buildings, and into work, to turn our machinery and produce all the various manufactured articles which add so much to our comfort. The power exerted by men and animals is transformed from the chemical energy of the oxidation of the food in their bodies, while the power of wind and water comes more directly from the sun—that great central reservoir of energy, from which even the energy stored up in coal first had its source. Our homes are lighted by the sun at night just as truly as by day, only in the former case the light energy comes to us indirectly, by way of the coal fields, where it has been lying stored up for millions of years, awaiting the pick and shovel of the miner. It is also true that all these transformations of energy take place according to mathematical laws. A pound of coal, or pure carbon, will, when oxidized or burnt, always produce exactly so many units of heat. From this heat just so much power or work can be obtained, and no more; this power will produce an invariable number of units of electricity or magnetism, and the electricity, when transformed into chemical action, will decompose a definite weight of a chemical compound. Every pound of coal, every ounce of food, represents a certain amount of energy, and by no possibility can a greater amount be obtained from it. It is the legitimate field of the inventor to endeavor to utilize all this energy in the form in which it is desired, and prevent the enormous waste by its transformation into undesired forms, which at present occurs even with our best and most economical machinery. Any attempt to do more is as sure to end in failure as would an attempt to prove that two and two added together make five. The final transformation of all energy is, as far as we know, into heat. Every pound of coal we burn, whatever forms of energy it may pass through, is finally converted into heat, and contributes, in an infinitesimal degree, to raising the temperature of the whole universe. We are unable with our present knowledge, to follow it any farther, and can only look forward to the final exhaustion of the solar reservoir, and the cessation of all light, heat, and other forms of energy, as well as life itself. We can see nothing in the future ages but a cold, dark, lifeless universe. There may, however, be some undiscovered law by which the wasted heat energy may be gathered up and again concentrated into centres like our sun, to pass once more through the same cycle of changes; but, as yet, such a law is only a matter of speculation, and belongs rather to the province of the metaphysician than to that of the scientist. While we know but little of the past, we know still less of what changes the future may bring in the condition of the universe.—*Popular Science News.*

TO BRONZE PIPES.—A convenient preparation for re-bronzing gas fixtures is made by mixing bronze powder with any transparent varnish—say, amber, gum damar or copal. Do not mix more than you are going to use at once, because most bronze powders act as powerful dryers, and what you have left of the mixture soon becomes hard and useless. It is best to put little of the varnish in a small, flat saucer and some of the loose powder next to it, and mix with the brush while you are using it, as a painter mixes colors on his palette.

BOSTON BEEF.

THE SUPPLY MOSTLY DERIVED FROM CHICAGO.

"I should say," said a Boston dealer to a Boston *Journal* reporter, "that fully 90 per cent. of all the beef used in Boston is brought from the West. Seventeen years ago Boston took the lead in adopting the refrigerator car system for the receiving of shipments of dressed beef, and the city does the largest business in this line at present." It is learned that Boston receives about 100 car-loads of dressed beef weekly, not speaking of an average of 140 carloads for exportation. The refrigerator car wrought remarkable results in this line of business. Most of the dressed beef comes through Chicago, which is the great distributing point for the West, but a considerable and increasing proportion is now coming direct from Omaha and Kansas City. The fact that a Boston firm has recently established at Minneapolis a branch house for the shipment of beef to the latter from Omaha indicates the confidence which it has in the trade.

CHEAP AND POOR.

ADULTERATION SUSTAINED BY THE DEMAND FOR CHEAP ARTICLES.

Those who mix, adulterate and manufacture imitations of staple food products have reduced the matter to a science, and to such an extent has the adulteration of food products been carried on that it is becoming more and more difficult for grocers and general storekeepers to obtain goods that they can guarantee to be absolutely pure. Many of these products are not unhealthful, there is nothing in them of an injurious character, but they are simply not what they purport to be. Authorities in the East have been carefully investigating the matter, and their report shows that after examining 623 samples of food products, 303 were found to be adulterated and 320 were pure or up to the legal requirements. Figuring this out, one can see that over 48 per cent. of these goods were adulterated and only a trifle over 51 per cent. were pure. The following is a list of the articles examined and the per cent. of adulteration, which we take from a recent article in the *New York Commercial Bulletin*, a reliable authority:

ARTICLES.	Total.	Pure or Standard.	Adult'd or not Standard.
Butter and oleomargarine.	68	24	44
Milk.....	121	78	43
Lard.....	141	80	61
American canned goods..	55	54	1
Imported canned goods...	16	5	11
Ground coffee.....	24	8	16
Coffee essence.....	1	0	1
Tea.....	19	19	0
Black pepper.....	28	6	22
White pepper.....	4	2	2
Cayenne pepper.....	3	3	0
Mustard.....	41	1	40
Cinnamon.....	20	7	13
Cloves.....	13	3	10
Allspice.....	8	2	6
Ginger.....	11	8	3
Nutmeg.....	2	2	0
Extracted honey.....	10	5	5
Maple syrup.....	9	5	4
Molasses.....	3	2	0
Drips.....	1	0	1
Vinegar.....	12	1	11
Pickles.....	7	5	2
Carbonated beverages....	7	0	7
Total.....	623	320	303
Per cent.....		51.36	48.64

It is said that pure lard is becoming very scarce in the market. Most of the lard sold is a compound of beef fat, cotton-seed oil and hog fat. Coffees are extensively adulterated; ground peas, chicory, wheat, rye and beans being used. All of the samples tested as mentioned above were sold as pure, only eight out of twenty-four

passed favorable inspection. The worst adulteration was found in ground pepper, mustard, cinnamon, ginger and cloves. Much of the pepper was composed of a mixture of buckwheat hulls, cocoanut shells and cayenne for flavoring. Ginger was composed of corn meal, turmeric and cayenne. The dexterity and ingenuity with which the spicemen produce these articles was found to be surprising. Baking powders were also found to be badly adulterated. It would, therefore, seem to the *Criterion* that about the only protection from imposition the reputable dealer can have is to deal only with well-known and reliable houses and to beware of all goods offered at suspiciously low prices. Whenever goods are put upon the market at a price below the actual cost of the raw material, it shows conclusively that something must be wrong with them or that there is a reason for it; that reason generally is that the goods are largely composed of foreign substances which are introduced into them to give them bulk and desirable color and flavor.—*Grocer's Criterion*.

MICRO-ORGANISMS.

DO THEY POSSESS THE POWER OF VOLUNTARY CO-OPERATION.

There exists organisms which lead a life of habitual isolation, but which understand how to unite for the purpose of attacking prey at the desired time, thus profiting by the superiority which numbers give. The *Bodo caudatus* is a voracious Flagellate possessed of extraordinary audacity; it combines into troops to attack animacula one hundred times as large as itself, as the Colpods, for instance, which are veritable giants when placed alongside the *Bodos*. Like a horse attacked by a pack of wolves, the Colpod is soon rendered powerless, twenty, thirty, forty *Bodos* throw themselves upon him, eviscerate and devour him completely. All these facts are of primary importance and interest, but it is plain that their interpretation presents difficulties. It may be asked whether the *Bodos* combine designedly in groups of ten or twenty, understanding that they are more powerful when united than when divided. But it is more probable that voluntary combinations for purposes of attack do not take place among these organisms; that would be to grant them a high mental capacity. We may more readily admit that the meeting of a number of *Bodos* happens by chance. When one of them begins an attack upon a Colpod, the other animacula lurking in the vicinity, dash into the combat to profit by a favorable opportunity.—*Binet's Psychic Life of Micro-Organisms*.

AMERICAN LARD.

CORRECTION OF THE MISAPPREHENSIONS REGARDING ITS FOREIGN USE.

Judging from the character of the items going the rounds of the press regarding American lard in foreign countries, one would be led to believe that every foreigner to a man stood ready to kick our product into the ocean as a result of his suspicion that it contained cotton-seed oil. Recent misinterpreted dispatches from Canada, Mexico and France have furnished ground for the coloring which was given to the news. While it is true that the subject of American lard has been taken up by the officials in the countries mentioned, its adulteration formed only a minor part, if any, of the needs that suggested its exclusion. Protection to certain industries in the countries that have brought up the subject will be found to be the real reason for their desire to exclude our product. The packers of Canada feel the need of protection, and they are trying to get it, but they are strongly opposed in some sections, and it is very doubtful if they can secure aid from the government unless adulteration furnishes them grounds for argument. A story has been going the rounds of the press to the effect that the Mexican government pro-

posed to exclude American lard. The only excuse for the origin of this myth was the fact that an official chemist of the Mexican government analyzed a number of samples of American lard and published the result. There has been no action taken by the government on the subject, nor is there likely to be any at an early date. On May 1, the French government will impose a duty on lard containing cotton-seed oil, not because the compound is considered unwholesome, but for the simple reason that it comes in direct competition with olive oil. The *New England Grocer*, speaking of the American lard trade with foreign countries, says that the fact remains, however, that this year the exports here exceeded those of last year by 34,749,562 pounds. This large increase is somewhat of a surprise, considering the attempts abroad to prejudice the consumers against American lard. The increase in this season's exports is greatest in the United Kingdom, which has so far taken in round numbers 20,000,000 pounds more than last season, while the Continental ports have taken about 15,000,000 pounds more.—*Chicago Grocer*.

FRUIT OR MEAT.

A PHYSICIAN TESTIFIES IN BEHALF OF VEGETABLE DIET.

The food which is most enjoyed is the food we call bread and fruit. In all my long medical career, extending over forty years, I have rarely known an instance in which a child has not preferred fruit to animal food. I have many times been called upon to treat children for stomachic disorders, induced by pressing upon them animal to the exclusion of fruit diet, and have seen the best results occur from the practice of reverting to the use of fruit in the dietary. I say it without the least prejudice, as a lesson learned from simple experience, that the most natural diet for the young, after the natural milk diet, is fruit and whole meal bread, with milk and water for drink. The desire for this same mode of sustenance is often continued into after years, as if the resort to flesh were a forced and artificial feeding which required long and persistent habit to establish its permanency as a part of the system of every-day life. How strongly this preference taste for fruit over animal food prevails is shown by the simple fact of the retention of these foods in the mouth. Fruit is retained to be tasted and relished. Animal food, to use a common phrase, is "bolted." There is a natural desire to retain the delicious fruit for full mastication; there is no such desire, except in the trained gourmand, for the retention of animal substance. One further fact which I have observed—and that too often to discard it, as a fact of great moment—is that when a person of mature years has, for a time, given up voluntarily the use of animal food in favor of vegetable, the sense of repugnance to animal food is soon so markedly developed that a return to it is overcome with the utmost difficulty. Neither is this a mere fancy or fad peculiar to sensitive men or over sentimental women. I have been surprised to see it manifested in men who were the very reverse of sentimental, and who were, in fact, quite ashamed to admit themselves guilty of any such weakness. I have heard those who, gone over from a mixed diet of animal and vegetable food to a pure vegetable diet, speak of feeling low under the new system, and declare that they must needs give it up in consequence; but I have found even these (without exception) declare that they infinitely preferred the simpler, purer, and, as it seemed to them, more natural, food plucked from the prime source of food—untainted by its passage through another animal body.—*Richardson in Longman's Magazine*.

ELECTRICITY FOR SNAKES.—A report comes by way of Germany, that a novel use of electricity has been made in India, for the prevention of the intrusion of snakes into dwellings. Before all the doors and around the house two wires are laid, connected with an induction apparatus. Should a snake attempt to crawl over the wires, he receives a shock of electricity, which either kills or frightens him into hasty retreat.

TIME MEASUREMENT.

WHY THE HOURS AND MINUTES ARE DIVIDED INTO SIXTIETHS.

Why is our hour divided into sixty minutes, each minute into sixty seconds, etc.? Simply and solely because in Babylon there existed, by the side of the decimal system of notation, another system, the sexagesimal, which counted by sixties. Why that number should have been chosen is clear enough, and it speaks well for the practical sense of those ancient Babylonian merchants. There is no number which has so many divisors as 60. The Babylonians divided the sun's daily journey into 24 parasangs, or 720 stadia. Each parasang or hour was subdivided into 60 minutes. A parasang is about a German mile, and Babylonian astronomers compared the progress made by the sun during one hour, at the time of the equinox to the progress made by a good walker during the same time, both accomplishing one parasang. The whole course of the sun during the 14 equinoctial hours was fixed at 24 parasangs, or 720 stadia, or 360 degrees. The system was handed on to the Greeks, and Hipparchus, the great Greek philosopher, who lived about 150 B. C., introduced the Babylonian hour into Europe. Ptolemy, who wrote about 150 A. D., and whose name still lives in that of Ptolemaic system of astronomy, gave still wider currency to the Babylonian way of reckoning time. It was carried along on the quiet stream of traditional knowledge through the Middle Ages, and, strange to say, it sailed down safely over the Niagara of the French Revolution. For the French, when revolutionizing weights, measures, coins and dates, and subjecting all to the decimal system of reckoning, were induced by some unexplained motive to respect our clocks and watches, and allowed our dials to remain sexagesimal—that is, Babylonian—each hour consisting of sixty minutes. Here we see the wonderful coherence of the world, and how what we call knowledge is the result of an unbroken tradition of a teaching descending from father to son.

BANANA CULTURE.

A FRUIT THAT "SEEDS" IN ONLY ONE SPOT ON THE EARTH.

The banana and the plantain have always formed one of the staple foods of tropical countries. Improved communication and an ever increasing demand for the banana gave, some fourteen years ago, a great impetus to its cultivation. The sugar-planter of the West Indies was gradually but surely being ruined by beet and bounty-fed sugars. The banana was with him a tree to be hated. In Jamaica every negro had a few planted in the small clearing round his hut, and a bunch of the fruit would feed him and his family for a week. When so provided, he saw no need to go out to work in the cane fields. At first the banana-walks were made anywhere on the estate; generally on an abandoned cane-field, which cost less to clean, but experience has taught the planter that certain sites suit the tree best. The best place for a banana-walk is a valley or hill-side having a western prospect. The large leaves attract the dew, and in the early mornings a patch of bananas looks as if it were encrusted with diamonds. These drops of dew are soon evaporated by the morning sun, but if the trees are shaded the plant absorbs most of the moisture. The ground for the intended patch is thoroughly cleaned and "stubbed." Then "suckers" must be obtained, as the banana is only known to seed in one small spot on the earth, the Andaman Islands. These "suckers" sprout from the root of the banana-tree when it is one year old. They are torn from the parent tree and may be shipped long distances, being hardy and long-lived. About 400 or 500 trees are planted to the acre, and now the chief care is to see that the weeds, and especially the creeping ones, are

kept down; otherwise they will soon choke the young plant. The banana tree bears fruit in its first year. The bunch hangs down on a stem which springs from the tree just under its frond of leaves. This stem extends beyond the fruit, ending in a purple cone, under which is a small insignificant bunch of flowers. The early morning visit to a banana-walk exposes one to the equivalent of a thorough rain drenching. As each bunch becomes full, but while still green, the tree is chopped down with one or two blows from a "machete," great care being taken that the fruit is not bruised. The bunch is then carried on the head of a negro to the dray that carries it down to the port. The bunches are packed between layers of "trash," and on being unloaded from the drays are sorted into "nines," "eights," etc., that is to say, into "hand bunches" of those numbers. A "hand" of bananas is one of the small portions that go to make up a bunch. Bananas are paid for with ready money on the beach, according to the number of "hands" and the time of year. In January, February and March they cost from 12 to 18 cents a bunch; in April, May and June from 48 to 72 cents. In a good year a bunch of bananas cost 4 cents to land at the beach, all expenses included. The planter has the risks, however. A hurricane will in an hour destroy every tree, and for that year the cultivation is, of course, a dead loss. In Jamaica and Honduras at least the thefts by the negroes form a large item. Landed in New York the bunches bring from 50 cents to \$2, according to the time of year and the size of the bunch. As soon as the banana begins to give a good shade the space between the trees are planted with cocoa, a tree that must have shelter from the sun. Almond trees and the flamboyant are also planted to give the shade for the cocoa when the bananas have ceased to bear profitably; that is, in three or four years.

CRUSHING A COUNTERFEIT.

AN ATTEMPTED CHICAGO SWINDLE NIPPED IN THE BUD.

Quite a stir was produced in legal circles in Chicago on April 13th by the quick, sharp work of a legal representative of John Duncan's Sons, of New York, who are the agents for the United States of Lea & Perrins' Worcestershire sauce, in suddenly checkmating a very bold attempt to flood the market with a counterfeit sauce under a close imitation of their labels. Detectives had been busily at work for some time in tracing the originators of this latest scheme to defraud the public, and finally traced it to the Chicago agent of a newly-formed syndicate of wholesale fraud and forgery. This triumvirate consisted of the Chicago representative, Lewis P. Wells; a man from Denver, Col., named Aaron C. Decker; and a Philadelphian named Edwin T. French. With a few thousand dollars to invest in anything that looked like a profitable scheme, they hit upon the, to them, novel idea of imitating Lea & Perrins' Worcestershire sauce. Having consulted a lawyer they believed that, so long as they refrained from actually counterfeiting the labels and only made a close imitation, especially if they used a name very closely resembling Lea & Perrins, they could flood the market and realize a handsome profit. But as all such schemes, though ever so cunningly devised, fail for the want of some connecting link, this met a similar fate. Shrewd detectives found that Lewis P. Wells and Lee Perrins, whose name was to furnish the pretence to similarity, were one and the same person, and upon boldly charging him with the attempted fraud he weakened and confessed the crime. Upon his affidavit to that effect and that of John P. and David Duncan, Counsellors Kraus, Mayer and Stein at once obtained an injunction from Judge Blodgett, of the U. S. Circuit Court, forever forbidding the manufacture of this imitation, and the beautifully-executed drawings for the fraudulent label was seized at the Adams Express office and given up to be destroyed. This drawing is a wonderful work of the design-

er's art. Though in every respect different in design from the genuine label, it is so similar to it that it would readily deceive any one but those fully conversant with the genuine labels. In other words, it is not a counterfeit in any sense nor a *fac-simile*, but a very close and deceptive imitation. At first sight it appears to be the same, but when closely compared with the genuine the manner in which it was sought to deceive the eye becomes more apparent. Messrs. Lea & Perrins can be congratulated at this narrow escape from another great fraud upon their trade-mark. This is the third or fourth instance where such counterfeits and imitations have been thwarted in Chicago. The history of the various attempts to imitate this sauce, its bottles, labels and wrappers, make interesting reading. Originated over fifty years ago in England, and imported into this country nearly that length of time, it has from the very first seemed to be the goal of all the counterfeiters. In every case, however, they were followed up, arrested, or prosecuted to the full extent of the law. At various times, as the laws affecting trade-marks and proprietary rights were changed and modified, the courts had to be applied to for a fresh construction of these laws, so that the expenses incurred by the proprietors in simply defending their rights became enormous, but having bravely done so the attempts to counterfeit have almost entirely ceased, and the fraud is almost wholly confined now to close imitations which avoid, as far as possible, any approach to counterfeiting, but endeavor, necessarily in a small way, to reap the benefit of the enormous advertising the article has had by putting upon the market spurious goods of somewhat similar appearance, so as to deceive the unsuspecting buyer. As any article to enjoy the public favor as long as this sauce had must be well made, of good ingredients, it is, of course, costly, and the profit lies only in the enormous quantities sold. An imitator naturally uses inferior ingredients, and thus enhances his profits, but cannot duplicate his orders, and thus loses what little trade he can establish. It may be said that though these imitations have been attempted by those who have been in the employ of the original manufacturers, and were supposed to be somewhat familiar with the real formula, not one of these has ever succeeded in making an imitation which could not be instantly detected. So, also, analyses have been made and published by some of the best chemists in England and the United States, yet no one has ever been able to put the sauce together in a way which would for an instant deceive a judge. Now, it has been asserted, and with good reason, that even if Messrs. Lea & Perrins should furnish the name and amount of each ingredient contained in the sauce, unless they also gave the manufacturing directions it could not be successfully made. In this country there have been plates made that were counterfeits of the original labels, but in every instance they have been quickly detected, and the perpetrators of the fraud tried and convicted wherever they were found and arrested. In several instances, however, they had got so far as to spend their time and money, and were compelled to escape the process of law; leaving everything behind them to be seized and destroyed; in other cases, there were only partial imitations made, and these also were soon found out and stopped. The most numerous frauds, however, were those where the old genuine bottles were bought up and refilled, but a late judicial opinion that such refilling of an inferior imitation in a bottle bearing a genuine label, was practically a fraudulent use of a trade-mark, and misusing a guaranty signature, has also put an end to this nefarious procedure. In this latest case, the fraud consisted in carefully avoiding to counterfeit any of the labels or signatures, but by making a very close copy, both in wording and general appearance, and using a similar name for the guaranty signature, to mislead the purchaser into the belief that he was buying the genuine article. This attempt having been stopped by an injunction, and the original drawing for the label, which had never been put in the form of a plate, having been seized and delivered up for destruction to the

American agents of Lea & Perrins, it would seem as if the wholesome lesson thus taught evil-doers should enable Messrs. Lea & Perrins, and their American agents, John Duncans, Sons, to enjoy in peace the fruits of their fifty years labor.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

April.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant, pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Anchovy, bass, cod, snipe, eels, carp, catfish, flounder, halibut, herring, lobster, mackerel, mussels, oysters, perch, rock-fish, salmon, smelt, whitefish, trout, sturgeon.

VEGETABLES.—Artichokes, beans, carrots, celery, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

BAKED FISH.—Make a sauce of a bunch of parsley, one and a half pints of milk, a lump of butter the size of an egg, the yolk of two eggs, a little nutmeg, salt and pepper; boil till thick, and then put with it some cold boiled fish; put in a greased baking dish, sprinkle with crumbs, and bake.

TO USE UP COLD VEAL.—Cut the meat from the bones and chop into small bits. Put the bones in a stew-pan, with a little warm water to make a gravy. After stewing a short time, take the bones out, put in the chopped meat, and a bit of finely-chopped lemon peel. Thicken with flour, season, and serve on toast.

MEAT CROQUETTES.—Take cold meat of any kind, chop it fine, with a hard boiled egg, a little onion, a little savoy, parsley, catsup, pepper and salt, and the white of a raw egg. Make into small rolls, dip into raw egg and bread crumbs, and fry.

CREAM SALAD DRESSING.—One teacup cream, yolks of four eggs, butter the size of an egg, one-quarter cup vinegar, one teaspoonful salt, one teaspoonful mustard, cayenne pepper. Beat the eggs for fifteen minutes, stir into it the pepper, salt and mustard, add the cream and strain. Melt the butter and vinegar together, and when cool, add to the cream, and cook till it is a little thicker than custard.

ROLLS.—One pint milk, one tablespoonful lard, two tablespoonfuls butter, one teacupful yeast, two teaspoonfuls sugar if liked, a little salt. Put shortening in milk, and scald. When the milk is cold, make the dough; when perfectly light, cut it down with a knife, and let it rise again. Repeat this several times; then make into rolls and put in the pan, and let them get very light before baking.

CHARLOTTE DE RUSSE.—One pint milk, one coffee cup sugar beaten together to a stiff froth, one pint milk, one and a half sheets American isinglass. Set the milk into hot water, put in the isinglass, broken up, until dissolved. When quite cold, stir into the cream, flavor with vanilla. Line a dish with sponge cake. Pour in the cream, and set away to cool.

YORKSHIRE TEA CAKES.—One quart of sifted flour, loosely measured, mixed with two heaping teaspoonfuls Horsford's Baking Powder. Rub into it one ounce of butter, and then add one egg, well beaten, and mix the whole with enough sweet milk to make a thick batter. Bake immediately in small tins or gem pans. Have the tins or pans hot before filling.

GLUTEN ROLLS.—The following is the recipe for the celebrated Clifton Springs Sanitarium gluten rolls: Three cups Farwell & Rhine's health flour; two teaspoonfuls of Horsford's Baking Powder; half a teaspoonful of salt; one and a half pints milk. Mix with spoon to a light dough, and bake in a battered iron roll-tin in a hot oven for twenty-five minutes.

TRUSTS.

AN EXPLANATION OF THE MODERN SYSTEM OF CORPORATE COMBINATION.

All our readers are now familiar with the name and reputation of "trusts." All understand that they are in some way great monopolies, which control the production and prices of one and another article of commerce. All have heard that they have brought new dangers to the commercial world, and that legislatures and courts of justice are being used to control or to cripple them. But just what a "trust" is, or how it works, is not quite clear to most people. The *Commercial Bulletin*, of Boston, has lately taken the trouble to summarize and to illustrate the characteristic qualities of this pretentious and threatening commercial usurper. Our contemporary begins with the preliminaries to the organization. The first movement is the incorporation of all the companies and firms which intend to form the trust. Certificates of stock being issued to the members of the new corporations in proportion to their several interests in the old partnerships, officers being elected, each of these corporations select one of its members to be its representative in the trust. These "representatives" then constitute the "trust." Let us suppose that all the new corporations interested had been dairy firms, and that it is proposed to make a "cheese trust." They give their trust some such name as the National Dairy Company. They organize as a company, with officers, but do not incorporate. Their name stands for nothing, says the *Bulletin*. They are not a person within the meaning of the law. But to them as a company the entire aggregated capital stock of all the cheese-making corporations represented in their body is transferred. Having no personal existence, incapable of suing or being sued, they are, nevertheless, made the owners of the entire capital stock engaged in the various companies. In lieu of this stock, they issue to its former holders certificates representing each one's interest in the aggregated stock. In this way the National Dairy Company becomes the owner of all the capital, plant, material and product of the companies from which it has been made up, and from six competing firms they are created into one monopoly. Then the trust decides what price shall be paid for crude milk, and what price shall be paid for the manufactured cheese. It decides what the output of cheese shall be for the coming year, and it apportions to each of the companies represented its share of the estimated output. It is all one to the individual company whether it produces ten pounds or ten million pounds, since it receives its due proportion of the profits of the trust, whatever may be the contribution of its own works. The effect of the trust is to multiply the powers and to diminish the responsibilities of capital. Individually the six cheese companies would have no particular force in controlling the total amount of cheese to be manufactured, or in fixing the price to it. But consolidated they become a dangerous power. Suppose there is a seventh cheese firm which refused to come into the company. It soon find that the trust has contracted to secure all the available milk. It must go to a great distance for its supply, pay a higher price for it, and a heavy freight bill besides. When its goods are put upon the market, it finds that cheese is selling so low that it must either do a losing business or none at all. In a little while it is forced to quit, or come into the Trust. Many things, concludes our contemporary, are lawful for an individual to do which are a crime when

committed by several individuals acting upon a common understanding. And the reason of this is plain. When one man seeks to effect an end advantageous for himself, but injurious to others, he may act entirely within his rights. But when several persons conspire to do such a thing, they bring to the purpose of injury so great a power as to require restraint. The nature of Trusts lies not entirely in the fact that their aims are hurtful to the public, but that their power is a source of public danger also.

FAITH HUMBLES.—At a recent trial of two apostles of "faith cure" in Sioux City, Iowa, for practicing medicine without a license, the judge instructed the jury to find for the defendant, as it was no crime under the laws for a person to pray for an afflicted neighbor. If those two apostles had seen a man in danger of drowning, and, instead of calling assistance and trying to rescue him, had knelt down on the bank and prayed for his deliverance, we might have stood in awe of their faith, but we would have been tempted to boot their works.

MOTION AT REST.—An exceedingly interesting illustration of the phenomenon of "motion at rest" was recently exhibited before the Royal Institution, London, the demonstration being so complete that small letters placed on a disk, revolving several thousand times a minute, were seen and read with entire distinctness. The accomplishment of this unique result was brought about by means of an electrical arrangement, which caused brilliant sparks to illuminate the print at the exact instant only when the type was vertical. But for the buzzing produced by the great velocity of the disk, the words would have been supposed to be entirely at rest. This application of the electric spark, of course, gives a ready means of observing any and all changes which may take place in either matter or machinery in rapid motion.

A MAGNETIC INDICATOR.—A clock recently patented in France is an imitation of a tambourine, on the parchment head of which is painted a circle of flowers corresponding to the hour figures of ordinary dials. On examination two bees, one large and the other small, are discovered crawling among the flowers. The small bee runs rapidly from one flower to another, completing the circle in an hour, while the large one takes twelve hours to complete the circuit. The parchment surface is unbroken, and the bees simply laid upon it, but two magnets connected with the clock-work inside the tambourine move just under the membrane, and the insects, which are of iron, follow them.

RAILWAY SPEED.—Three hundred miles an hour is the proposed speed for the electric postal railroad of the future. An experimental line has been erected at Laurel, 20 miles from Baltimore, Md. A compromise between the pneumatic tube and the ordinary railroad carries a miniature train of two cars solely for mails and light parcels, without any attendance. The road has three rails, one above the car for carrying the current, and two below which carry the cars. The cars are built of sheet iron and are two feet square and twenty-one feet long. Speed will be regulated and power of brakes applied by electricity solely. If the experiment at Laurel succeeds it is stated that similar roads will be laid between Baltimore and Washington and elsewhere.

PORTABLE ELECTRIC LIGHT.—A useful piece of apparatus has come into use in Germany in the shape of a traveling electric light. The affair is very simple. A dynamo, with an engine to drive it, is mounted on a wagon, something like that of a steam fire engine, containing boiler, fuel box and water tank complete for a night's service. A dozen or so of jointed poles, a corresponding number of arc lamps and a supply of wire complete the equipment, and the whole is readily drawn by a pair of horses to the place where it may be needed. On its arrival the poles are set up where required, and stayed with wires fastened to stakes driven into the ground; the lamps are hung to them and properly connected, and the engine is set in motion. The lamps immediately kindle, giving a light nearly as bright as day over the whole neighborhood as long as it is needed. Any number of lamps, from one to fifty, may be operated from a machine of suitable power, and as they may be suspended anywhere, and are not affected by rain or wind, it would seem that the apparatus might be very useful to contractors and others who have to carry on night work on an extensive scale.

CORK.—In experiments recently made in France on the elasticity of cork, it was found that disks of that substance, when submitted to a pressure of sixty-six tons to the square inch, were compressed to one-fifth their thickness, and recovered their original dimensions in exactly ten minutes after the pressure was removed.

USES OF RARE METALS.—Some rare metals, possessing special qualities, are required for certain work. Thus palladium is used in making some parts of time-pieces, and iridium for the points of gold pens, and the uninitiated have no idea of the value of such scarce products. Vanadium costs, for instance, \$12,000 per pound; zirconium, \$7,900, and lithium, which is the lightest of metals, \$7,700 per pound. Rhodium, which is extremely hard and brittle, and is only fusible at a very high temperature, fetches \$2,500; and iridium, the heaviest substance hitherto discovered, costs \$1,200 per pound. It will therefore be seen that gold and silver are far from being the most precious metals, as far as their market value is concerned.

TAKE HEED.

If you watch a careful and intelligent man in charge of an engine, you will see that the instant a "skreeking" sound reaches his ears he snatches up an oil-can and hastens to find and attend to the journal in need of lubrication. He does not attempt to stop the warning note by heaving more coal into the fire under the boilers, or setting the safety valve to bear higher pressure of steam, or putting a fresh coat of paint on the "cap" over the heated bearing. But, if he did those things, instead of what he does do, he would not demonstrate himself any more unwise than the person is who resorts to the superficial treatment of symptomatic warnings, instead of taking radical measures for the abolition of their cause, or who tries to cure serious physical ailments by the employment of temporary palliatives that at best only deaden the immediate consciousness of illness. The squeak of the dry and binding journal is in itself a small

thing, a mere noise; but it has an important significance. It gives warning of the inception of destructive conditions in the machinery. In like manner, warnings are given by nature of the deterioration of the human physical economy. A pimple is a small thing, but it demonstrates that the blood contains impurities which nature is making an effort to throw off. A headache, or a sense of languor and depression are considered trivial annoyances; but they are, really, serious notifications that our vital organs are weakened and failing. Loss of appetite may be regretted only, as it interferes with our enjoyment of the pleasures of the table; but it is Nature's way of saying: "This machine has been run beyond its capacity, and if it is not cared for will speedily break down altogether." The sensible person, who has the care for himself that an intelligent engineer has for his machine, does not neglect those warnings. He knows that such is the thorough inter-dependency among the organs of his body that no one of them can be effected without injurious secondary effect upon others, and that such effect will re-act inevitably upon the one primarily assailed. One cannot have torpidity of the liver without consequent sluggishness of the bowels and serious affection of the kidneys. And when these organs fail to do their work of secretion and excretion the blood quickly becomes laden with particles of effete matter, the waste of the system, which, being rapidly carried through all its channels, causes deterioration in every part. It is idle to think of arresting this progress by application of curative agencies to one organ only, while the others remain diseased. Their maladies must be treated together, not seriatim. You cannot get your torpid liver to work properly while your kidneys are clogged and inflamed. No medicines that stimulate the kidneys can be efficacious in curing their disorder while the liver is inactive. Purgatives that simply clear out the bowels will do no permanent good. Hence it is absolutely necessary to employ primarily a medicine that is at once a

cathartic, a diuretic, and a purgative. It is not enough to temporarily clear out the overlaid bowels, stimulate the torpid liver, and compel the kidneys to work. They must be strengthened so that they will resume the natural exercise of their respective functions, and the blood must be cleansed of the impurities already lodged in it, else they will quickly vitiate the organs again. This is where such a powerful alterative medicine as Ayer's Compound Sarsaparilla is of inestimable value. The ingredients of which it is composed (Honduras sarsaparilla, yellow dock, mandrake, stillingia, and the iodides of potassium and iron) are the most efficacious for blood-purification known to medical science. Very often a single bottle of Ayer's Sarsaparilla, taken in time, has prevented an expensive and dangerous illness, and there is no doubt that this medicine has saved many valuable lives.

ROCK CANDY.

Rock candy is simply sugar dissolved and boiled to remove all impurities, and then crystallized on strings. It naturally follows that when a very pure sugar is required, rock candy is used. Boiling sugar at a high temperature oxidizes it, and makes it of a dark color, hence when our grandfathers bought rock candy, they expected to be supplied with a brown but clear article. Since modern machinery, skill and experience have been employed in the manufacture of rock candy, the ordinary product has been a pure white, and wherever the dark brown color has been demanded, the manufacturer was compelled to color the white by the addition of caramel which is simply coloring made of burned sugar. It must be remembered that all rock candy syrups made from refined sugar, come from the pans of a yellowish tinge—a decided straw color. In order to make rock candy syrup white, it has to be carefully filtered. It is this filtering which makes it expensive,

LOOK OUT for Imitations and Substitutes OF *Horsford's* ACID PHOSPHATE.

A variety of imitations and substitutes of this standard preparation have appeared under the name "Acid Phosphate," or a similar title, all of which differ materially from the genuine article.

Be sure the name "**HORSFORD'S**" is on the label. No other genuine.

N. D. ARNOLD, TREAS.

Providence, R. I.

Rumford Chemical Works.

owing to necessary labor, material and waste. Having mastered this problem, Dryden & Palmer have the advantage of being able to offer absolutely pure rock candy syrup at the lowest price consistent with honest goods. Purchasers should beware of an alleged rock candy syrup, which is white and thick, because it is a low grade of sugar only dissolved in water, of which the market is full, and which can be sold at an enormous profit to the unscrupulous manufacturer. In making rock candy, or, as it is called in Europe, candy sugar, the finest grade of refined sugar is boiled, filtered, and then allowed to crystallize on strings. In this process, which is carried on only till about two-thirds of the syrup is crystallized, the other third being allowed to remain as rock candy syrup, for which there is a large demand, and by being thus left uncrystallized, saves re-dissolving the sugar. Of the two-thirds crystallized about one-half crystallizes in strings, the remainder in lumps. There being but little demand for these, they are generally ground up and re-dissolved for syrup. Previous to the year 1876, there was no regular manufacture of rock candy, or rock candy syrup for the market, only a very little being made by confectioners, for local use. In that year, Dryden & Palmer started the business in Baltimore, and found the demand so large for an honestly made article, that now only thirteen years after starting, the want of room, raw material, manufacturing and shipping facilities, have compelled them to remove to a large and commodious building covering a large block of ground on North Third Street and Wythe Avenue, Brooklyn. The AMERICAN ANALYST has already referred to this removal in a previous issue. In their new quarters, with entirely new and improved machinery, most of which is patented, this firm can largely increase their output, and be able to supply promptly all orders. They confine their business strictly to the manufacture of rock candy and rock candy syrup. The demand for this syrup has vastly increased

within the last decade, as it is well known to be much better in every way than simple syrup or that made from simply dissolving ordinary refined sugar. Buying in large quantities they can buy cheaper and furnish a rock candy syrup strictly pure, colorless, and warranted to keep, at nearly the same price which it would cost to make a simple syrup. They have suffered considerable from the unfair competition of one or two makers who boil common sugar and sell uncrystallizable syrup for pure rock candy syrup. Dryden & Palmer do not make any sherbets or imitation maple sugar, hence cannot supply any but the best grade of rock candy syrup. Their sales are constantly increasing. Rock candy syrup is used largely by liquor and wine men, champagne makers, pharmaceutical manufacturers, druggists, soda water syrup makers, bottlers, and also for table use. Another extensive use is that for making the celebrated *Sun* receipt for all pneumonic diseases, colds, coughs, bronchitis and consumption, which directs two ounces of rock candy to be dissolved in a pint of good copper distilled rye whiskey, a wine glassful of which is to be taken three times a day. Every one who has tried it knows the difficulty of dissolving rock candy in whiskey, and as it is necessary to have pure whiskey, it would be well not to buy the whiskey already prepared, the quality of which is not known, but to buy the best whiskey and add three ounces of rock candy syrup to the pint. Then you are sure of what you have.

BUSINESS NOTES.

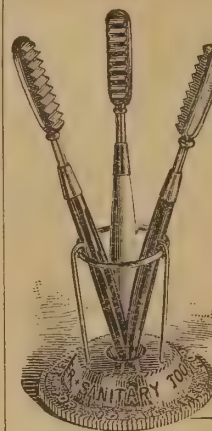
CHOLERA INFANTUM.

It frequently happens that a baby, sick with diarrhoea or cholera infantum, or much reduced by digestive disturbance, cannot retain milk on its stomach, it seeming

to act as an irritant, and no hope of relief can be entertained until it is excluded from the diet. In such cases, Mellin's Food should be used with water alone, or with barley water. It may, and frequently should, be given cold; and if the vomiting be severe, a teaspoonful only should be given at one time, repeating at intervals of ten minutes. When the vomiting has been arrested the child can be allowed to feed from the bottle. After a couple of days have elapsed without any vomiting, milk in small amounts, gradually increased as the child can bear it, may be added to the diet, but with caution at first.—Doliber-Goodale Co., Boston, Mass.

HORSFORD'S ACID PHOSPHATE

In Sick Headache. Dr. W. W. GRAY, Cave Spring, Ga., says: "I have given it in several cases of habitual sick headache with perfect success."



"The Ideal Lustre"

Is a Peculiar BRILLIANCY of the TEETH, combined with a Ruddy Healthfulness of the Gums, by which you can at once detect the user of the

IDEAL FELT Tooth Polisher.

This Lustre can be obtained in no other way; and if you care for the Appearance, Smoothness and Preservation of your Teeth you will not delay its use.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISHER'S PRICE.	DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York, Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia, Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO. 19 PARK PLACE, NEW YORK.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **CLUMEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flour for Dyspepsia, Diabetes, Debility & Children's Food. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES, Props., Watertown, N.Y.**

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

♦ The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?



If you Value
**Clean Homes
and Clean Clothes**

If you have any feeling for the poor souls who make them so, lighten their tasks by supplying them with

Pyle's Pearline Washing Compound.

You will have better results, happier servants—they will have more time for rest or other work. Your clothes will not be rubbed to pieces. You will not be under any increased expense, and you will have taught your help to use their heads in the right direction, rather than their muscle in the wrong. Give Pearline a fair trial *without soap* or any other preparation. Millions are using it. Beware of imitations and peddlers.

Sold everywhere. Pearline is manufactured only by JAMES PYLE, New York.

CALIFORNIA

**Fine Table
Wines**

From our Celebrated Orleans Vineyard.

Charles Harborth & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD, New York, } Agents.
C. JEVNE & CO., - - Chicago, }

ESTABLISHED 1872.

GELATINE

**JAMES CHALMER'S SON'S
Transparent Gelatine.**
PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Robert Gordon's
TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

ROBERT GORDON'S CONDENSED CLAM CHOWDER,
In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

EQUAL TO THE BEST.

A very comfortable hotel for permanent or transient guests in New York is the famous Sturtevant House, Broadway, cor. 29th Street, Matthews & Pierson, proprietors. European and American plans, prices very reasonable.—*Tribune*.



BLAIR'S PILLS

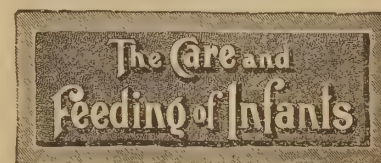
Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



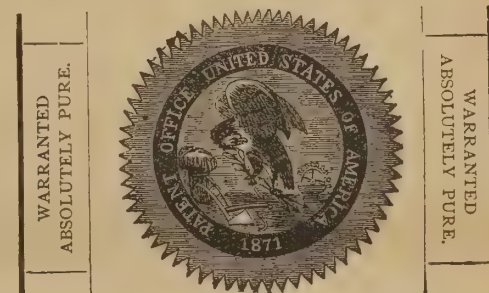
will be MAILED FREE to any address.

DOLIBER, COODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

**DEAN'S PATENT
ARDENTER MUSTARD.**

BEST IN THE WORLD.



Ardenter Mustard Pellets

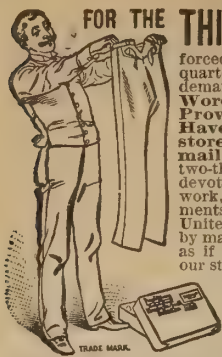
— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.



FOR THE THIRD TIME

In our history we have been forced to move into larger quarters to keep up with the demand from our New York, Worcester, Springfield, Providence, Lynn, New Haven, and two Boston stores, and our enormous mail trade. We now occupy two-thirds of an acre of space devoted entirely to custom-work, turning out more garments than any house in the United States. You can order by mail by our system as safely as if you could call at one of our stores. To obtain the famous Custom-made Plymouth Rock \$3 Pants, first, send 6 cents, for which we will mail you 20 samples self-measurement blanks, and linen you MENTION THIS PAPER, or if you cannot wait for samples, tell us about the color preferred, with waist, inside leg, and hip measures, remit \$3, together with 35 cts. to cover cost of expressage or postage, and we will forward the goods prepaid to any address in the U. S., guaranteeing safe delivery and entire satisfaction or money refunded. Remember, also, that we make to your order, Full Suits, \$13.25, Overcoats, \$12.00, and that for any cause we refund money at buyer's request upon return of goods, or make alterations or new garments free of extra charge.

PLYMOUTH ROCK PANTS CO.

Address all mail to 11 to 17 Eliot St., or 18 Summer St., Boston, Mass.

BRANCH OFFICES.—285 Broadway, New York; Burnside Building, Worcester, Mass.; Gilmore House, Springfield, Mass.; 60 Market St., Lynn, Mass.; Butler's Exchange, Providence, R. I.; Register Building, New Haven, Conn.

Any one wishing to learn of our responsibility, may write the American Express Co., at Boston, (capital \$20,000,000) or consult the commercial agencies.



MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no re-constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were MALTINE, Gorbun, Stacey & Co.'s Extract, and Keppeler's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or coagulate in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs,

etc., which will assist and instruct

him in the sale of Harriet Hubbard

Ayer's Recamier Toilet Preparations

and Vita Nuova, should address THE

RECAMIER MFG. Co., 52 and 54 Park

Place, New York City.



LADIES

Enamel your Ranges twice a year, tops once a week and you have the finest-polished stove in the world. For sale by all Grocers and Stove Dealers.

GORDON & DILLWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK

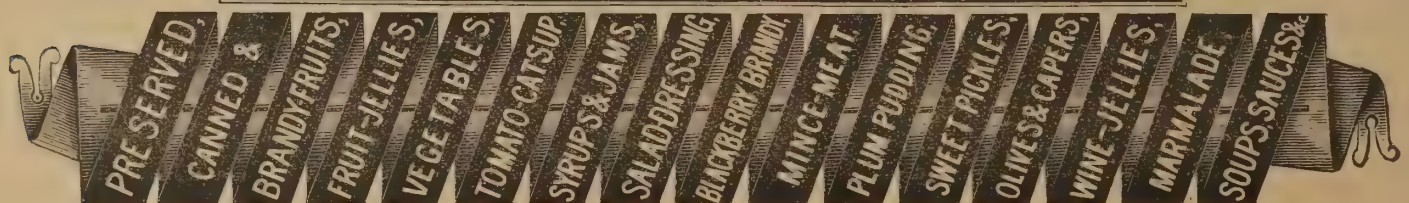
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

563 & 565 GREENWICH ST. NEW YORK

CHOICE OF DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism, Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

3 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

73 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBSAND
PRIVATE FAMILIES

BY

Beadleston & Woerz
291 W. 10th St. New York.Orders by Postal Card
promptly attended to.

LEA & PERRINS' SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

THE LABORATORY.

To Inventors, Manufacturers and Applicants
for Patents

The AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable.

Address, AMERICAN ANALYST,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA.

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

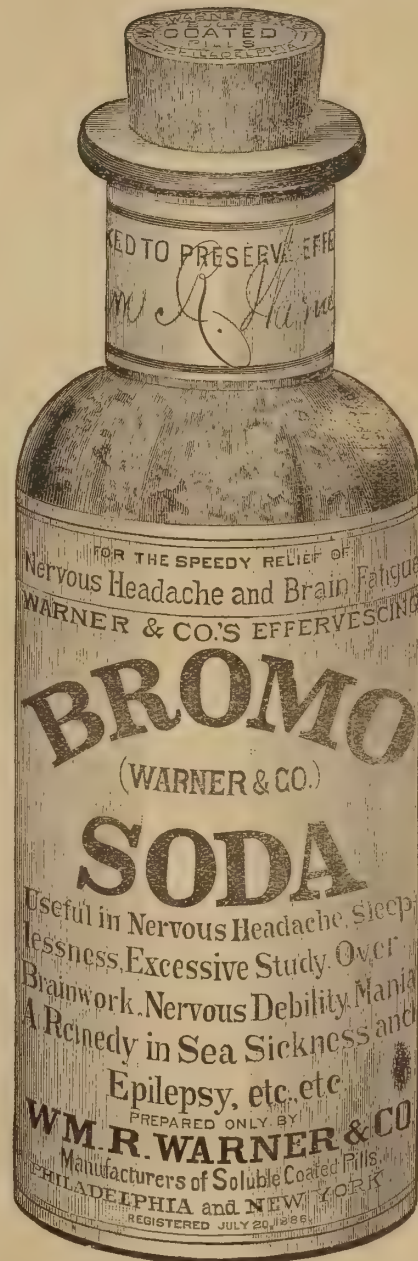
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

A CURE FOR

Sick and Nervous HEADACHES.

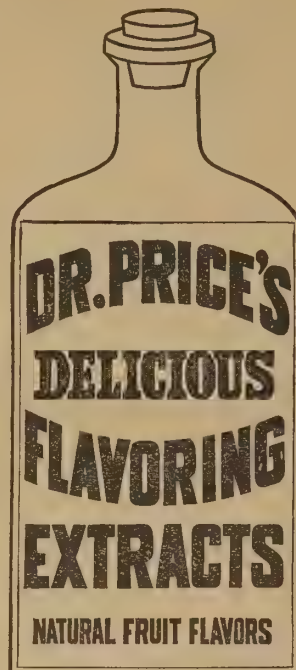
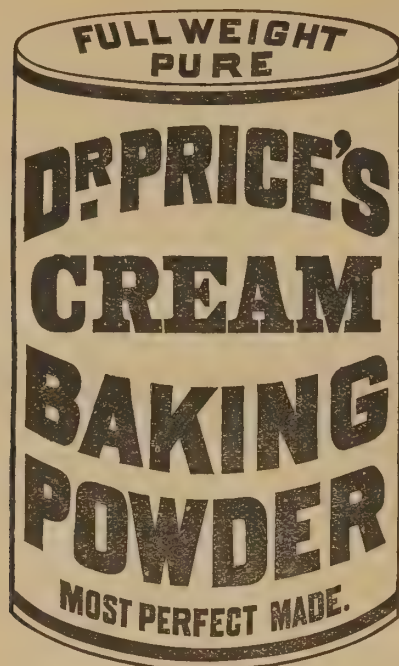


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

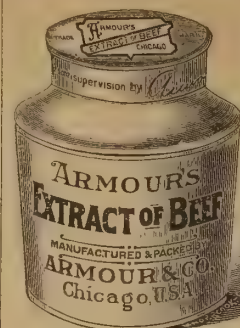
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

**SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.**

**ARMOUR'S
EXTRACT OF BEEF.**

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

LIQUID

BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, (inchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 18.

NEW YORK, THURSDAY, MAY 2, 1889.

WHOLE No. 114.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Blood Oranges.....	207
Book Reviews.....	208
Cooking in Emergencies.....	206
Domestic Dietetics.....	208
Editorial.....	205
Improving the Diploma System; The Obstructionists Flooded; The Highest Building; American Vines on European Soil; Microbe Enthusiasts; Cigarette Leg- islation.	
Fish for Food.....	207
Hot Air Baths.....	206
Ice Water.....	207
Jelly Cheap.....	206
"Limited".....	208
Stale Bread.....	207
Thank You.....	209

IMPROVING THE DIPLOMA SYSTEM.

The custom of awarding medals and certificates at public Fairs has been carried to such an absurd extreme as renders it probable that the system will be abandoned. At the International Exhibition in Paris, the authorities have not yet decided upon the plan to be adopted as to jury examinations of exhibits, or as to reports and awards; nor indeed is it by any means settled whether there will be any juries, reports, or awards at all. There will be no distribution of medals, the utmost that would be done being the possible giving of diplomas of different shades of merit. The chances appear in favor of a total abandonment of the jury and award system, and in its place the substitution of an official document given to every exhibitor, certifying his presence at the exhibition. The object of such a certificate does not appear very clear. If the decision be taken, to follow the example that has been set in England, and abandon all attempts to pronounce on the respective merits of exhibitors, the present exhibition offers a splendid op-

portunity for a new departure in official recompense. The idea submitted by a member of the British Committee is receiving attention. It is that, awards, in the form of medals or diplomas, should be given to those men whose names are famous in industry and science, and whose works have been so distinguished that the fruits they have borne appear in all parts of the exhibition, though the distinguished workers themselves take no part. The number is limited, and the list would not be difficult to prepare, for the names of such men are familiar to all the world. Pasteur, Chevreuil, Dumas, Gramme, Eiffel, De Lesseps, Bessemer, Wyld, Swan, Armstrong, Edison, Bell, Alvan Clarke, are conspicuous examples of those whose labors have advanced civilization in all its branches. So, too, those societies all over the world, whose mission it has been successfully to promote industry and science, could be appropriately recognized.

THE OBSTRUCTIONISTS FLOODED.

According to the *Produce Exchange Bulletin* of this city, the "local inspection" law in New Mexico has been quickly knocked out. That paper states that in a long opinion given to the meat inspector of Santa Fe County, relative to the new law regulating the sale of meats and providing for the inspection of cattle and hogs prior to slaughtering, which practically prohibits taking into New Mexico dressed beef and pork, the acting solicitor-general of the Territory says that the act is unconstitutional and void so far as it affects shipment into the Territory for purposes of sale and public use of articles of interstate commerce. He holds that dressed beef and pork are commodities of this character, and that the law is an attempt, under the cover of police power, to keep out all foreign dressed or uncured meats. We have not seen any announcement of the foregoing fact elsewhere than in the *Bulletin*, but inasmuch as such an outcome as it records is inevitable, we presume the statement is correct.

THE HIGHEST BUILDING.

That the Yankees "beat all creation" is well established, but their attempt to accomplish that feat in the Washington monument has been so far eclipsed by the progressive Frenchmen in the Eiffel tower at Paris, now about completed, that there is no room left for brag. It stands to-day as the highest structure ever built by man, and with the exception of the Tower of Babel, is probably the highest building ever contemplated. Its total height is 1,178 feet, more than 500 feet in excess of the Washington monument, which was previously the highest building in existence. This remarkable monument originated in the brain of the French engineer Eiffel, and it is intended to be a feature of the Paris Exposition, and also a permanent reminder of it. It is situated on the banks of the Seine, opposite the Trocadero Palace, and is constructed of iron girders. Seve-

ral elevators will carry passengers to the top, the trip occupying five minutes. A spiral staircase also leads to the top, which it will require forty minutes to mount. There will be a restaurant on the first floor, which is on a level with the towers of Notre Dame. An electric light of marvellous power will flame from the summit. It is claimed that a newspaper can be read by its light at a distance of seven miles, and that the light itself can be seen for forty miles.

AMERICAN VINES ON EUROPEAN SOIL.

The alleged resistance offered by American grapevines to the ravages of the phylloxera has recommended those vines to wine-growers of Europe, where the pest has made its presence felt. Much uncertainty has existed among the growers as to the particular variety best adapted to resisting the insect ravages, and some disagreement has also been noted between those who favored grafting American cuttings on French vines and those who proposed to replace the French by the American article entirely by planting the latter in the place of the former. Dr. Geza Von Horvath, of the Hungarian experimental station, who has been studying the subject for seven years past, has published in detail the results of his experiments, recently referred to in *Bradstreet's*. There is but one American variety, and that the *Vitis rotundifolia*, or Scuppernong, that will successfully resist any and all attempts of the pest upon its roots.

MICROBE ENTHUSIASTS.

The discovery of the diphtheria microbe is reported from Paris, with a vague promise of an expedient for inoculation against the disease. Similar identifications of the cholera, yellow fever and many other microbes have not involved the development of preventive measures for the protection of human life. The promise of an effective method of inoculation against diphtheria will probably prove equally illusory. Medical enthusiasts may entertain the pleasing fancy that the time is coming when all the microbes will be known, numbered and provided with symmetrical Latin names, and the human species adequately protected against everything except old age. An ailing and disconsolate world remains incredulous.

CIGARETTE LEGISLATION.

On April 11th the lower house of the Michigan Legislature passed a bill which prohibits the "manufacture, sale, keeping for sale or giving away of any cigarettes or any imitation thereof composed in whole or in part of tobacco, or any substance in the form of the cigarette containing any narcotic elements." That is pretty sweeping. In New York it is only proposed to forbid the sale of cigarettes to boys under sixteen. The Michigan House may mean well, but it is hardly likely that public senti-

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

ment will support any such law as that. A sentence of banishment against the cigarette in toto cannot be enforced at the present day. But a great benefit to the American manhood of the future will be effected if its pernicious use by minors can be prevented.

COOKING IN EMERGENCIES.

HOW THE CITIZENS OF PARIS FARED DURING THE SIEGE.

No one knows till stern necessity taps at our doors, and when starvation looks us in the face, what dishes can be made out of things one has never dreamt of before. In a pamphlet called, "The Beleagured Cook; or, the Art of Living in a Besieged Town," there are some very interesting facts of the kind. This work emanated from the pen of one who was through all the horrors and atrocities of the siege of Paris. Hunger all through the siege was one of the deadliest enemies the French had to combat with. He writes that "during the almost general hecatomb of all created animals, we may mention oxen, sheep and pigs which lasted till November * * * the horse was the best and most delicate food; the dog supplied flesh both agreeable and healthy; the cat, and even the rat, adorned our tables; * * * but little did anyone suspect that dromedaries, antelopes, the elephant, and others, which we had for years visited in the Jardin des Plantes, would one day appear on our tables as welcome entrees." After the siege, "the ass must, by the delicacy of its flesh, become the favorite of the rich. Its meat is firm, close-grained, and pleasing. Much more delicate than beef, it can be cooked in exactly the same way." One of the favorite siege soups was "Soupe à l'Ail," made by putting thin slices of bread into a tureen, and adding olive-oil, onions, pepper and salt. Boiling water was poured on this, and a clove of garlic was scraped in for each person. Roast cat was another favorite dish. "The Beleagured Cook" says: "Its flesh is white, fine and delicate. Before it is eaten, however, it wants to be kept forty-eight hours. You can make a ragout of it as you would of hare, and roast it." The cat was cooked in a casserole with dripping, onion, garlic, pepper, salt, sweet herbs, and a wine-glass of wine or gravy, cooked slowly. He also writes: "Horseflesh is very much like beef in appearance and taste, and, well cooked, it is difficult to discover the difference, and, if anything, it is to be preferred to beef." Pot-au-feu de cheval was made by taking the flank skin and neck, and putting it into cold water, cooking it over a slow fire, and removing the scum as it rose; a clove of garlic, a burnt onion, a few cloves and leeks, celery, turnips, cabbage, etc., were

added. This took seven or eight hours' slow cooking. Cheval à la Parisienne was another favorite way of cooking horseflesh. The recipe was to take horses' oil, heat it, and add boiled horse in slices, with salt and pepper to taste. When half cooked, stock and parsley were added, and shallots and vinegar. Horseflesh ragout was made by browning some fat in a frying pan, and adding to it a fillet, the tongue, heart and brains, all cut up small. This was half-dried, then floured, and a glass of wine added, as well as water, herbs, pepper, salt and chopped garlic. When nearly cooked, onions were added. Asses brains were very much esteemed. They were washed in tepid water, and then soaked for an hour in cold water, then put into stock and seasoned with salt, pepper, garlic, thyme, carrots, a bayleaf, and some vinegar, and cooked for forty-five minutes. When cooked they were served with black butter sauce. Our "Beleagured Cook" tells us that dogs were hung forty-eight hours, when it was difficult to tell it from the mutton, and if put into a marinade for a few hours it tasted like kid. A leg of dog, after being hung for four days, was marinated, with a clove of garlic under the knuckle, then roasted before a brisk fire, and well basted with the marinade gravy. Rats' flesh had to be carefully inquired into before cooking, as dangerous germs were often found in their bodies; it was always well spiced before being cooked.

HOT-AIR BATHS.

THE TESTIMONY OF PHYSICIANS AS TO THE VALUE OF THE TURKISH BATH.

Dr. Austin Flint says that, as a remedy for sleeplessness, the Turkish bath is better than bromides, chloral, or opiates. Dr. Lewis Sayre says that when the medical profession arrives at a thorough knowledge of the value of hot-air baths, they will prescribe them more frequently, and medicines less, and be of more service to their patients. Dr. L. W. Thudichum, of London, thinks the Turkish bath the most powerful and certain, and at the same the safest and most agreeable therapeutic agent in existence. He says one can remove as much of the poisonous and effete matter from the body in one hour in a Turkish bath as can be removed by other means in twenty-four hours, and that it is a common experience that persons who have been liable every winter to attacks of catarrh, bronchitis or neuralgia, acquire an almost perfect immunity by the regular use of the bath. Sir Benjamin Brodie, M. D., of London, says it is of great use in dyspeptic and gouty diatheses, and to those who lead inactive or sedentary lives. Professor Erasmus Wilson, says that in the Turkish bath the skin acquires color, freshness, firmness and elasticity; it loses the muddy and faded hues of ill-health, and the parched and wrinkled aspect of infirmity and age, and that it procures for the habitual bather exercise, health and life. Sir John Fife, M. D., of Edinburgh, who was the first to establish a bath in connection with a hospital, at the great Newcastle Infirmary, says that its effects are most remarkable in obviating disorders and palliating diseases of the liver and kidneys, the relief of kidney obstructions often occurring almost immediately after the use of the bath. These quotations show that many of the leading physicians of the world are firm believers in the therapeutic value of this agent. It is roughly estimated that there are seven million pores opening on the surface of the skin. These are the vent holes, or sluice gates, for over twenty-five miles of drainage. To insure health, it is necessary that the greater part of this system of drainage should be in proper working order. If the sluice gates are blocked up, the waste matter must find an outlet in some other quarter, and naturally it permeates the tissues of the body, enters the blood currents and produces diseases of various kinds. The Turkish bath, by opening the pores, by flushing and allowing free egress to this deleterious matter, cleanses the blood from impurities, gives an impetus to the circulation, and

invigorates the entire organism. It is one of the best remedies for relieving a "general cold," and it acts well as a mild febrifuge. Unlike many rules, the Turkish bath works both ways: it will reduce superfluous tissue, and, by its action in restoring the system to a normal condition, it will also increase the bodily weight.

CHEAP JELLY.

THE PURE FRUIT ARTICLE REJECTED FOR CHEAP IMITATIONS.

The Oswego Times tells the following instructive story about the altogether too common nasty imitation jellies: A year or two ago a man in the town of Oswego found himself with a large crop of red currants, and as the price in the market was too low to permit him to sell them at a profit, he manufactured them into "jam" or "jelly," using the best of sugar, and producing a most excellent article which he imagined would sell to families and hotels readily. He found the hotels supplied with a cheap, impure article, manufactured from gluten and acids, and colored to resemble somewhat in color and taste currant jelly, which the landlords told him answered every purpose, as the boarders didn't know the difference, and it could be procured at a much lower rate than he could afford to sell the pure article. The dealers would not purchase the pure article because they sold at retail an article which "answered the purpose," even lower than he could offer his at wholesale. The result was the enterprising man, who thought he could do the people a great kindness by furnishing them with a pure, delicious article of currant jelly at a cost less than they could manufacture it themselves, had a large quantity on hand to send to friends, and to pass around "in case of sickness," etc. But we haven't heard of his manufacturing any more "pure currant jelly" for the market.

POISONOUS CANDLES.—At a children's party in London, last Christmas, a number of the little guests, as well as several of the adults, were seized with curious and inexplicable symptoms, which could not be traced to the indigestion of any particular food or liquid of which they had partaken. Attention was then drawn to the candles on the Christmas tree, many of which were green, and these, when submitted to analysis by the county analyst, proved to contain Scheele's green, the red candles, moreover, being colored with vermilion.

THE SALT OF THE EARTH.—The world's annual production of salt is approximately 7,200,000 tons. Of this the United Kingdom produces 2,200,000 tons, North America 1,000,000 tons, the continent of Europe 3,000,000 tons, and Asia and Africa 1,000,000 tons. The consumption of salt varies from 50 pounds per capita in the United States to 8½ pounds in Switzerland. In England 40 pounds per head is the average. In France it is 30 and in Italy 20 pounds per head.

TO UTILIZE STREAMS.—A new method of utilizing the power of running streams has been devised by M. Tain, a Russian engineer. His apparatus consists of an endless cable carrying a series of canvas cones, which open and shut like an umbrella. The cable passes over a double drum on board a pontoon, and at the other end over a pulley suspended from a buoy. On the lower part of the rope the cones are opened and forced forward by the current of water, thus setting in motion a shaft or drum.

COMPOSITION OF HONEY.—R. Bensemann has analyzed a sample of pure honey taken direct from the bee-hive. It was quite colorless, transparent, and showed no traces of crystallization. Its taste was very sweet, and its odor somewhat aromatic. It gave a rotation of the beam of polarized light to the right (3.74 deg.) It gave to analysis: water, 22.61; Levulose and dextrose, 64.33; saccharose, 12.59; and ash, 0.09; total, 99.62 parts. The presence of saccharose (cane-sugar) in this honey, to the extent of over 12½ per cent., is attributed by the author to the fact that the bees collected in fields near to a sugar refinery, and doubtless many of them visited the latter.

ICE WATER.

SOME POPULAR IDEAS ON THE CHEMISTRY OF FREEZING.

The exceptionally mild winter this season has not been very favorable to the growth and harvesting of the New England ice crop, which, in many localities, is more important than the product of the land in the summer. The seasonable cold of the latter part of the winter, however, caused the "growth" of a fair crop in most localities, and there is no danger of a scarcity next summer of an article which has now become almost a necessity of life during hot weather. The freezing of water is such a common and familiar phenomenon that we do not often stop to think of the remarkable effect which a low temperature produces in changing a liquid into a hard, brittle solid, of a different specific gravity, and which, with the exception of being composed of the same chemical elements, is, practically, a new substance. The true nature of this change, which we call a physical one, we cannot fully understand, and it may not be going too far to question whether the difference between ice and water is altogether independent of the chemical composition, and whether the so-called elementary constituents—hydrogen and oxygen—are not individually modified also. This, however, leads us to the question of the true nature of elements, of which at present we have very little knowledge. Water in freezing passes at once from the liquid to the solid state, without any intermediate condition of softness and plasticity, as is the case with glass, iron, and many other substances. One moment it is water—but, in an instant, a needle-like crystal shoots across the surface, and a portion has been transformed into ice. Water, also, is one of the few substances which is lighter in the solid than the liquid state, and this property is one of the most important principles in Nature, for, if the ice were heavier than water, and sank to the bottom as fast as it formed, in a few years all our lakes, ponds, rivers, and probably the polar oceans themselves, would become solid masses of ice, which the summer's sun would be unable to melt. If we cool water from the boiling-point (212 deg. Fahr.) to the freezing-point (32 deg.), we shall set free, as it were, 180 deg. of heat. Now if we continue the cooling till the water is frozen, we find that the thermometer still indicates the same temperature of 32 deg., but an additional quantity of heat has been set free from the water in the process of changing to ice, and investigators have found that 142 deg. of heat are thus set free; and, conversely, when the ice is melted again, the same amount of heat—which is called latent heat—is absorbed in the process of liquefaction, before the thermometer begins to show any change of temperature. That is to say, in order to transform a pound of ice at 32 deg. into a pound of water at 32 deg., we must use as much heat as would raise a pound of water from 32 deg. to 142 deg., or much more than half-way to the boiling-point. Making a more practical and familiar application of these figures, we find that a pound of ice can reduce the temperature of three pounds of water from 80 deg. to 32 deg., and we thus see how important a matter this latent heat of ice becomes, for, if it were not for this absorption of heat, the pound of ice would only reduce the three pounds of water from 80 deg. to 68 deg. After ice is once formed it follows the same laws of heating and cooling as any other solid. A popular magazine once stated that the lower the temperature at which water was frozen, the colder would be the ice. This is only true in an extremely limited sense. If a piece of ice formed at a temperature below zero, is exposed to a temperature above 32 deg., the temperature of the whole mass rapidly rises to 32 deg., just as a piece of stone or iron would, but at that point liquefaction and the absorption of latent heat begins, and the full cooling power of the ice is exerted. Not until the last particle is melted will the temperature rise above 32 deg., and all ice is equally "cold," whether it is formed at a temperature one or a hundred degrees below the freezing-point. A simple experiment, to show this absorption of latent heat, can be performed by tak-

ing two glasses, one containing water mixed with broken ice, and the other water cooled to 32 deg. by a piece of ice, which is removed before commencing the experiment. A thermometer immersed in each will indicate 32 deg. Set both glasses near the stove, or in a very warm place, wait till the ice in the first glass is nearly melted, and then take the temperature again. In the glass containing water only it will be found to have risen several degrees; in the one containing ice and water it will still remain at 32 deg. Both have received the same amount of heat, but in one case it has been absorbed by the ice in melting and rendered latent, without raising the temperature of the liquid. From the above facts it will be seen that ice alone can never freeze anything brought in contact with it. It will only reduce its temperature to 32 deg., and there the action stops, for, as no more ice can be melted at that temperature, no more heat can be absorbed from the body in contact with it. If we force the ice to melt at a lower temperature, by the addition of chemicals—such as salt, for instance—more heat will be absorbed by it, and any liquid or solid in contact with it will be frozen, as is illustrated every day in the preparation of ice cream. A large number of such "freezing mixtures," as they are called, are known to chemists, some of which—like nitrate of ammonia and water—do not require any ice at all. Ice is a crystalline body, and almost invariably crystallizes in hexagonal, or six-sided, forms. It is claimed that it sometimes forms crystals of the trimetric system, but the observation has not been confirmed. This crystalline structure is not very evident in a mass of ice, unless one observes it when water first commences to freeze, but it is beautifully shown in a snowflake, as well as by the frost-work which forms on window panes in winter. This law of crystallization extends through nearly all inorganic forms of matter, and not the tiniest snowflake falls to the ground, without being shaped by the same mysterious forces which have given a definite structure to the rocks of entire mountain-chains, or even to the solid crust of the earth itself.—*Pop. Science News.*

STALE BREAD.

HOW TO UTILIZE THE WASTE SCRAPS AND CRUMBS.

With a little care on the part of the cook or housekeeper, every scrap of stale bread can be made available. All the crusts and small pieces should be placed in a pan, and dried slowly in a warm oven. When they are perfectly dry, put them into a small bag made of ticking or canvas, and pound them fine with a wooden mallet. Sift them, and put them in glass jars. They will keep for months, and can be used for breading meat, fish, croquettes, etc. Another way of using these dry scraps is to roll them until they break in rather coarse crumbs. They are then nice to eat with a bowl of milk, for instance, or tea. Cut all the crust from a loaf of bread, and then tear the loaf in long, thin pieces. Spread these in a large pan, only one layer deep, and place in a hot oven. When they are crisp and brown, which will be in six or seven minutes if the oven be very hot, send them to the table with thin slices of cheese. This dish is nice just before dessert. Frequently it is served with the coffee. Take a number of slices of dry bread. Dip them quickly one by one in a bowl of cold water. Place them in a large dripping-pan, having only one layer at a time. Then set the pan in a hot oven. In ten minutes the bread will be brown and crisp. Place on a warm plate, and cover with a warm napkin. Serve at once with a little broiled smoked salmon, or any other smoked fish. This dish is a good one for lunch or supper. Put a loaf of stale bread in a deep pan, and after covering it with another pan, set it in a moderately-hot oven for twenty minutes. At the end of that time, take it from the pan and set it on end to cool. This bread will cut like a fresh loaf. Cut all the crusts from a loaf of stale bread, and put the loaf in a steamer. Set it over a kettle of boiling

water for twenty minutes, and serve at once with a sauce which has been made in the meantime by the following recipe: Put three cupfuls of boiling water in a stewpan, and place the pan on the stove. Mix three tablespoonfuls of flour with half a cupful of cold water, and stir the mixture into the boiling water. Continue stirring for two minutes. Now add half a nutmeg (grated) the yellow rind of a lemon (grated), and also two cupfuls of sugar. Boil for twelve minutes, then add two tablespoonfuls of butter, and the juice of the lemon. Cut the steamed bread in slices with a sharp knife, and pour a generous supply of sauce on each side as it is served. This is a nice sweet dish for children.

BLOOD ORANGES.

NOT GRAFTED FRUIT, BUT THE RESULT OF CULTIVATION

"There are more blood oranges in the market this Spring than I ever knew before," said a wholesale fruit dealer, "and there seems to be a constant demand for them." What people can see in them that is especially fine I have never been able to discover. To me they are as insipid as grape fruit, and that is a fruit about as utterly insipid as anything can well be. It was formerly the universal belief among lovers of the blood orange, and a great many believe so yet, that the fruit was the result of grafting the orange and the pomegranate, but that is a fable. The blood orange is simply a variety of the common sweet Manilla orange, and it originated a century ago by peculiar cultivation of the ordinary orange by a Spanish fruit gardener of the fertile Philippine Islands. Its novelty of color in pulp gained it great popularity, and not only the fruit but the trees it grew on commanded immense prices in the markets of Europe. The blood orange supply formerly came almost entirely from Manilla, and was for years one of its chief articles of export. Malaga now almost monopolizes the trade. Philadelphians seem to be the greatest lovers of the blood orange in this country, as the dealers of that city are the largest importers of the fruit."

FISH FOR FOOD.

SOME SIMPLE RULES FOR THEIR CHOICE AND SELECTION

The selection of fish is of the first importance, as upon its condition depends its healthfulness as well as its flavor. Leave this as little as possible to the fishmonger, or servant, unless well convinced of the honesty of the one, and the good judgment of the other. To a certain extent, modern facilities for keeping have rendered it possible for us to have a fish which is entirely out of season upon our tables in excellent, if not perfect, condition. This is, however, only for the rich, the poor, and moderately well to do, must content themselves with the luxury of absolute freshness. There are a good many ways of judging of this, which apply to fish in general. Soon after it is caught *rigor mortis* sets in, and the fish becomes firm and flexible; this after a time passes, when it becomes pliable and flabby. You may then be sure that it has passed perfection, even if it has not become spoiled. The gills of a fish fresh caught are red, and the eye round and bright. Reject at once and relentlessly the fish from which the eyes have been removed, as there is no more certain sign of the stale fish, and also of the dishonest tradesman. Lobsters may be judged by the state of the eye, and if the small purse-like appendages spring into place on being lifted the fish is fresh; the tail also will be springy. In selecting, the male lobster is considered better; it may be known by its narrow tail and greater number of claws. The female, however, contains the eggs, which are desirable for sauces. Heavy lobsters are better than those of medium length. This same length is now decreed by law, fortunately for our fast decreasing supply, and "short" lobsters are an illegal article of commerce. A lobster should not be eaten if

over eighteen hours out of the water, and it deteriorates rapidly after the first six. Canned lobsters and shrimps are among the best of all canned goods, but care is needed in selection here also. The condition of the contents may be judged from the appearance of the can; it must be perfectly air tight, if not so, the can will at once proclaim it by bulging at the ends; this shows that gas is being generated within, and this same gas is the result of decomposition; the contents being good, will be known by a level or a little depressed surface. This is true of all canned goods. Lobsters, salmon, shrimps, and so forth which are bottled, are more expensive, but there is less danger than with tinned goods. Oysters and clams, when removed from the shells, may be called fresh, in ordinary winter weather, for the larger part of a week, but they soon lose their best flavor, and for perfection cannot be eaten too soon. Never fail to discard a broken clam before cooking, for you cannot know when the shell was shattered, and the blow will have killed the fish. The food of some fish largely influences its flavor; with fresh water fish, as perch, pickerel and fresh water eels, this is apparent in their somewhat muddy taste, which is thought in its favor by some people. An untempting reputation for voracity is attributed to the lobster, but he does not deserve it; on the contrary, he is a small eater, and shuns impure things as a food, although he is a curious gentleman and investigates everything he finds upon the bottom. The cod is far less particular, and will, indeed, help himself to almost anything, which makes him more desirable when caught off a rocky headland or some way "off shore." The eel, though an untempting fish to many people, is yet a fastidious one, and he is so neat in his table habits as to reject contemptuously the trap, however well baited, which has not been washed and sunned before setting. The blue-fish, though one of the most toothsome when in perfection, which it never is except very near the sea, is not worthy of his title of "scavenger of the ocean."

—Good Housekeeping.

"LIMITED."

THE MEANING OF THE WORD APPLIED TO CORPORATIONS.

Many people are unaware of the significance of the word "limited," following the title of a corporation, and even those who are fully posted in regard to the liability limits of the shareholders in a corporation having that word attached to its name, will find the facts below of interest. The old principle of corporations created by legislative act was that the entire property of every stockholder was liable for the whole debts of the whole company, as the whole property of every member of a general partnership is still liable for the debts of the firm. This system made every shareholder responsible for bad management of which he might not be guilty, and deterred wealthy men from becoming interested in the shares of corporations. To remove this objection the principle of limited was introduced, and in order to notify the public that only the separate property of the corporation was liable for the debts of the corporation the English law requires that the word "limited" shall be used in every case by the company. Most American corporations are constituted on the principle of limited liability, but few, if any, of the States enjoin the companies to append the word limited to their corporate titles. The matter is so generally understood in this country, however, that it is not necessary. The most noteworthy exception to the general rule is the case of the national bank, and even in this instance liability is limited to an amount equal to the par value of the shares. That is, if the national bank fails, each stockholder may not only lose what he has invested, but \$100 more for each share of stock he holds, if so much is necessary to pay the debts of the bank. Until within a few years all the Scottish banks were organized with unlimited liability, and when, eight or ten years ago, a Glasgow

bank failed disastrously, there were cases of men who only owned a share or two, valued before the failure at not much more than \$100 each, who were assessed thousands of pounds sterling to meet the debts of the bank. Since that time the Scottish banks have been allowed to reorganize on a limited liability basis.

REVIEWS OF NEW BOOKS.

A LABORATORY GUIDE IN CHEMICAL ANALYSIS, by David O'Brine, E. M., Professor of Chemistry in the Colorado State Agricultural College. New York: John Wiley & Sons.

This work, of which the present is the second edition is intended, the author informs us, for the use of students who possess some knowledge of chemistry. The object is to present a practical guide in chemistry adapted to the wants of the college or the medical laboratory. It would be impossible to acknowledge the source of all analytical details or methods; they have been used, and in most cases modified by so many different persons that they are now regarded as common property. The labors of many well known chemists have been laid under contribution. Some of the methods are original, and every test presented has been verified. There is a discussion of all that is important in the analysis of water, milk and cheese, blood, urine and poisons. Especial attention is invited to the following subjects: Separation of Bases and Tests; Comparison of Phosphorus, Arsenic and Antimony; The Organic Acids; Classification of the Alkaloids; The Ptomaines; and Stoichiometry.

DIGEST OF LAWS GOVERNING THE ISSUE OF MUNICIPAL BONDS. Chicago and New York: S. A. Kean & Co.

Messrs. S. A. Kean & Co., whose New York office is at 115 Broadway, have recently published a new and revised edition of their "Digest of Laws" governing the issue of Municipal Bonds, which cannot fail to be of interest and value to investors, including savings banks, insurance companies, estates and individuals. It will also be valuable to authorities of states, counties, cities, school districts, etc., who contemplate issuing bonds. This book will be more valuable from the fact that Messrs. S. A. Kean & Co. have had more than twenty-five years experience as bankers and dealers in investment securities.

HAND-BOOK OF MATERIA MEDICA, PHARMACY AND THERAPEUTICS, by Cuthbert Bowen, M. D., B. A. Philadelphia and London: F. A. Davis.

The purpose of this work and, one for which it appears to be admirably adopted, is to furnish candidates for examination in the medical schools of this country a condensed recapitulation of the points on the themes mentioned in its title, with which they must be familiar in order to commend themselves to their examiners. All the drugs recognized by the United States Pharmacopoeia and their official preparations have been treated of in detail, special stress being laid on those points which in the past have proved stumbling-blocks to the candidate in the examination room. The form of a question-and-answer book has been adopted as admittedly the best means of conveying the greatest amount of knowledge in the fewest words. In the majority of instances the original form of the questions as submitted to examiners has been retained. While this is essentially a student's manual, a large amount of matter has been incorporated which, it is thought, will render it a useful reference-book to the young graduate who is just entering on his professional career, particularly the individual whose sphere of work demands a more practical acquaintance with pharmaceutical processes than is required of the ordinary city practitioner. Great care has been taken throughout the book to familiarize the student with the best methods of admin-

istering the various drugs he will be called upon to use, and with this object a large number of standard prescriptions have been selected from the works of the most eminent authorities, which he can either adopt with modifications to suit particular cases, or use as models on which to construct his own formulae.

THERAPEUTIC REFERENCE BOOK. Philadelphia: W. R. Warner & Co.

This is a convenient little reference book for medical practitioners containing in alphabetical arrangement, prescriptions of leading physicians for almost all the common ailments that humanity is subject to. It is not designed to teach those for whose use it is prepared anything they do not, or should not, already know, but as a handy pocket *vade mecum*, for refreshing the memory it will doubtless prove of great utility.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

May.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant, pigeon, chicken, duck, turkey, goose, snipe.

FISH.—Anchovy, bass, catfish, cod, eels, clams, flounder, halibut, herring, lobster, mackerel, mussels, perch, porgie, rock-fish, salmon, shad, shrimp, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Artichokes, beans, carrots, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

MRS. CHAPIN'S BUNS.—One quart warm water; one quarter pound butter; half teacup yeast; add enough flour to make soft dough, and set to rise three or four hours. Beat four eggs, half pound sugar, a teacup of currants, and mix with the dough and let rise again for two hours. When very light, make the dough into small buns. Set them close together in tin pans and let them rise, and bake in rather a quick oven. Before baking, brush over the top with milk and molasses.

PUREE OF SPLIT PEAS.—Soak one pint split peas over night; try out two slices of bacon cut into small pieces; in the fat fry a small onion, chopped up fine until it is brown; to this add a pint of hot water or clear soup, and season with a few stalks of celery, a small carrot shredded, salt and whole black peppers, and a few sprigs of parsley; simmer an hour, and turn the contents of the pan into three pints of soup-stock; add split peas. Simmer gently until the peas can be easily mashed between the fingers; taste for seasoning; add more salt and pepper if necessary, and a saltspoonful of brown sugar. Take the saucepan off the range, and pour the soup and rub the pulp through a sieve; return to the fire, and add a teaspoonful of wet flour. Whisk the soup thoroughly, and let it stand on the back of the range to keep hot until wanted. It will be better if made an hour or so before dinner.

COCOANUT CANDY.—Two cupfuls granulated sugar; half cupful of water; boil for six minutes; add one one grated cocoonut; as soon as the sugar is soft, spread on white, greased papers, and when cold, cut in squares. Flavor with vanilla.

LIZZIE'S NEW YEAR'S CAKE.—Four eggs; one cup butter; two cups sugar; two teaspoons caraway seeds; four teaspoons Horsford's baking powder; half cup milk; five cups flour; vanilla. Mix butter and sugar

to a cream; add the well-beaten eggs; add the milk, then three cups of the flour with the baking powder and the vanilla; mix *thoroughly*; add the other two cups of flour; roll out not quite half an inch thick, and bake in a quick oven.

SOFT GINGERBREAD.—One cup sugar; half cup butter; rub together. Add one cup molasses; two eggs; one teaspoonful of soda dissolved in one cup of milk; three cups of flour; one tablespoonful of ginger.

CABBAGE DRESSING.—Three tablespoonfuls of vinegar; one teaspoonful of salt; one teaspoonful of mustard; a piece of butter the size of an egg. Mix all together, and let them just come to a boil. Let them cool off a little, and then thicken with a beaten egg; boil up again; then thicken out with milk or cream, if desired.

BOSTON CREAM PUFFS.—Half pint of water; quarter pound of butter; a little over a quarter of a pound of flour; five eggs. Boil the water and butter together, and stir in the flour while boiling; then cool the mixture; add eggs one at a time, stirring thoroughly, but not beat them; this should be sufficiently thick to not run as it is dropped in the tin to bake; bake them about fifteen minutes until they are a delicate brown; make a small opening on one side, and fill with the following custard: Put one pint of milk over to boil; beat two eggs and one cup of sugar together; add half a cup of flour, and stir all into the boiling milk.

ITALIAN CREAM.—One quart fresh milk, one pint of rich cream, one ounce of isinglass. Boil the milk and isinglass, and make very sweet. Strain and flavor delicately with lemon or vanilla. When cool, add the cream, whipped very light. Stir in quickly, and put away to mold.

"THANK YOU."

THE SIGNIFICANCE OF SINCERE AND SPONTANEOUS COURTESY.

There is nothing we can give that costs so little and counts so much as politeness. Not that surface-dressing that, like whitewash when rubbed off, leaves an object entirely wanting in comeliness, but that genuine courtesy which roots in the heart and is fed by the truest purposes. Some people seem to think they can be independent of courteous manners because they are rich, or occupy honored positions. Some girls and boys are careless in manners, and thoughtless of the feelings of others, because their fathers are rich and bear titles; and I have known little people to be discourteous just because they happened to have a little higher standing in classes at school than some of their fellows. It is a good thing to be rich, to occupy higher positions, and to be at the head of one's class; but there is nothing that will so embellish a person who is thus fortunate as that genuine kindness of heart which thinks of the feelings and wishes of others at all times. One who has the germ of true politeness in his heart can never be boorish, and our aim should be to make the foundation of courtesy solid; then there will be no cracks in its superstructure. With a kind heart the face speaks the words of politeness, and the hands act the courtesy. We want no counterfeits, but the real thing. No "Thanks," that come out like words from a rubber stamp, but the "I thank you" that is each time written with an individuality of its own. The appreciation of a kindness shown in the hearty "I thank you," warms the heart and carries a delightful thrill with it that awakens a harmony that kindles pure emotions, and strengthens one's faith in humanity.

Subscriptions \$1 per year. Now is the time to subscribe.

THE WORLD'S CREMATED.—The total number of bodies cremated in the various countries to the 1st of August, 1888, is as follows: Italy, 998; Gotha, 554; America, 287; Sweden, 39; England, 16; France, 7; Denmark, 1.

CULTIVATING ART.—Mr. Grubs: "Thunderation! Hungry as a bear, and no signs of dinner. What's the matter?"

Little Bennie: "It's the girl's day out and ma hasn't got back from cooking school."

CITRIC ACID IN MILK.—G. T. Haekel has confirmed the existence of citric acid, as calcic citrate, in normal milk. The examination of many samples shows the presence of about 0.1 per cent. citric acid. A good cow yields daily, therefore, as much citric acid as is contained in two or three lemons.

LEPROSY.—Dr. Zambaco, of Constantinople, who has lived for several years among the lepers of the far East, says that he has never met a single instance of contagion, although the malady is certainly hereditary, the children of lepers becoming leprosy at the age of ten, fifteen and twenty years generally.

TO KEEP OFF MOSQUITOES.—Take a small quantity of a 2 per cent. carbolic acid solution, and sprinkle sheets, coverlets, pillow and bolster, on both sides, the edges of bed curtains, and the wall next the bed. The face and neck may also be slightly wetted with the solution. Not a single gnat or mosquito will come near.

PALLADIUM ALLOY.—C. A. Paillard, of Geneva, Switzerland, after fourteen years experiment, has determined that the alloy of palladium is non-magnetizable as used in watches, and is a satisfactory substitute for the metals commonly used. Only the hair-spring and compensation balance are made of this metal, and the cost of the watch is not increased.

COST OF MONARCHS.—Various governments pay their chiefs as follows: The United States \$50,000 a year; Persia \$30,000,000; Russia \$10,000,000; Siam \$10,000,000; Spain \$3,900,000; Italy \$3,000,000; Great Britain \$3,000,000; Morocco \$2,500,000; Japan \$2,300,000; Egypt \$1,575,000; Germany \$1,000,000; Saxony \$700,000; Portugal, Sweden and Brazil each \$600,000; France \$200,000; Hayti \$240,000; Switzerland \$3,000.

THE MORPHINE HABIT.—Erlenmeyer says that children born of women addicted to the morphine habit are practically morphine-eaters from birth. During the first few days of life, unless morphine is given to them, they are very apt to suffer collapse; and this condition may end in death, the child being too weak to withstand the violent symptoms, which are similar to those which follow the sudden withdrawal of the drug in adult opium-eaters.

TWO SIDES TO IT.

THE ROYAL SIDE AND THE TRUTHFUL SIDE.

The usual garbled, interpolated and untruthful quotations from official reports, cooked up lies and stories made out of the whole cloth, falsely credited to respectable journals, and emanating from the fertile brains of the advertising department of the Royal Baking Powder Company, have again made their appearance under the guise of extracts from exchanges, but in reality, as paid for reading notices. A few points need a little light to be thrown on them. The Royal would like to make it appear that the health authorities have advised the public against the use of phosphate baking powder, when exactly the reverse is true. No one who has any regard for the truth or for his reputation, has ever uttered one word of warning against a well-made phosphate baking powder, on the contrary, such as powder as Horsford's, has always been highly commended, and wherever it has become known and used, such inferior powder as the Royal has

never been able to get a foothold. The decision in St. Lawrence County, of which so much capital is made by the Royal, was a decision against some fraudulent maker of a baking powder, selling it under another firm's trade mark, and has been generally supposed to have been a cooked up decision on a case allowed to go by default. The New Jersey State Board of Health has reported adversely to cheap alum baking powders, but never against phosphate powders, as falsely alleged by the Royal. Not a single health board has ever officially endorsed the Royal, as that concern would like to have the public believe. Its claim to use a higher grade of cream of tartar than other manufacturers the AMERICAN ANALYST has repeatedly proven to be absolutely false. By a pooling arrangement, the manufacturers of cream of tartar in this country have agreed to make only one grade of cream of tartar, and while such large concerns as the Price Baking Powder Company and Cleveland Brothers, are using this best grade, they not being the owners of any cream of tartar factory, have no facilities such as the Royal, through its ownership of the New York Tartar Company possesses of using an inferior or half purified cream of tartar. What other manufacturers think on this subject can be readily seen from an extract from one of Dr. Price's advertisements. The Royal has never been able to answer this. "The introduction of alum and ammonia into baking powder, as a cheap adulterant, is one of the greatest evils of the day. Those corrosive substances have a caustic action, and when used in food disorganize the system and ruin the digestive organs. If alum and ammonia were required by the human system, nature would have placed them in the list with other necessities. The caustic chemical ammonia used as a 'cheapener' by adulterators of the public's daily food has its origin in an animal excrement, and yet it is introduced for leavening purposes in baking powders foisted upon the public as 'absolutely pure.' Manufacturers of baking powders have no right to place upon the market anything which has not by careful analysis and constant use been found not only harmless, but positively beneficial."

IODIDE OF POTASSIUM.

Probably there is no drug more frequently used, and with as much benefit, as iodide of potassium, or, as it is popularly and erroneously called, "iodide of potash." The proper Latin name for this salt, as employed in the United States, London and Edinburgh pharmacopœias, is *Potassii Iodidum*, while in the Dublin pharmacopœia it is called *Potassæ Hydriodas*. It is made by boiling together iodine, iron filings and carbonate of potassa in distilled water; then, after filtering, drying the crystals on bibulous paper. The chemical formula is 5 K I. Iodide of potassium crystallizes in small cubical crystals, very soluble in water, less so in alcohol. When exposed to air and sunlight, pure iodide of potassium becomes slightly brown, owing to the liberation of iodine. As we have seen, then, iodide of potassium is composed of iodine, a non-metallic element obtained from the ashes of seaweed and potassium. Let us for a moment see what is the effect of iodine on the system. In overdoses, it produces headache, giddiness, a metallic taste in the mouth, vomiting and purging, abdominal pain and convulsions. Medicinally, it is seldom used alone internally, but when so used it is most frequently in the form of iodized starch, consisting of iodine 5 parts to 95 parts of starch, of which from a teaspoonful to two tablespoonfuls is the dose. It is generally used as an alterative in scrofula, chronic enlargement of the joints, and in goitre. Compound solution of iodine is the German specific for typhoid. In the form of a vapor, iodine is an excellent inhalation in coryza (cold in the head), catarrh, hay asthma and chronic bronchitis. Externally, it is a counter-irritant and resolvent. Potassium, the other active agent in iodide of potassium, in its general effect on the system, hastens the process of oxidation, and lowers the temperature and the pulse.

As is frequently the case when the powers of iodine and potassium are combined, as they are in iodide of potassium, their respective properties are entirely changed, and they become, in this combined form, valuable depuratives for the elimination of morbid products from the system in rheumatism, gout and hepatic torpor, and powerful diuretics and antacids when there is acidity of the urine, and equally serviceable solvents for uric acid calculi. Medical authorities unite in ascribing to iodide of potassium great power as an alterative, promoting the absorption of morbid products, reducing glandular enlargements and inflammatory swellings, and causing the elimination of metallic poisons. Therefore, the administration of iodide of potassium is specially indicated in the following diseases: Sub-acute rheumatism and chronic gout, the intervals between attacks of summer catarrh and hay fever. In tertiary syphilis it is a specific in its various manifestations; in chronic pleurisy and pericarditis, and for the elimination from the system of such metals as lead, silver and mercury. The dose of iodide of potassium is from five grains to one dram. The effects on the system of this salt are very marked, especially on the secretions, into which it readily passes, and which it generally increases. When given in large and continuous doses, it has been found to irritate the mucuous membranes of the air passages; but there is not a single instance where any lasting ill effect has been produced by the use of iodide of potassium. The experiences of physicians all over the world as to the quantities used have been varied, yet the very fact that it is quickly decomposed in the system and passes in the urine probably accounts for the impunity with which it has been given even in maximum doses.

Much of what has been said about iodide of potassium has necessarily been technical and not so readily understood by the layman, but sufficient of this is clear enough to satisfy any fair mind that iodide of potassium in moderate doses is perfectly harmless in the most delicate system and an invaluable agent for good. Those manufacturers of so-called sarsaparillas who have cried out against it have probably been actuated more by a desire to save the expense of adding it to their preparation than by any real philanthropy.

To put a practical peroration to this explanation of the history and properties of iodide of potassium, it may be truthfully said that pure iodide of potassium in the minimum quantities added to such an excellent preparation as DR. AYER'S SARSAPARILLA never does harm, but always exercises a beneficial influence.

THE INFANT FOOD PROBLEM SOLVED.

LACTO-PREPARATA.

A GREAT ADVANCE IN THE SCIENTIFIC PREPARATION OF
A FOOD THAT SHALL BE A PERFECT SUBSTITUTE
FOR MOTHER'S MILK.

During the past twenty-seven years Messrs. Reed & Carnrick have frequently invited the medical profession of this country to visit their laboratory and witness the production of their various preparations, and, in a circular issued about a year ago they offered to pay the expenses of any physician from New York to Goshen and return. Since that time they have had the pleasure of exhibiting to a very large number of practitioners and several chemists of the highest standing, every step in the manufacture of their Food Products. They believe, and with good reason, that theirs is the only house in this country that has thus invited the profession to visit their laboratories, for this or any other purpose. A physician should never be asked to prescribe or recommend a food, or any pharmaceutical product, the composition or process of manufacture of which is kept secret. Messrs. Reed & Carnrick are confident that they are giving the Infant Food Problem more careful study, and are expending more money in the perfection of machinery for this purpose than any other concern, and

they are calling to their aid the best physiological chemists and practitioners in this country and Europe. They believe that their "Soluble Food" is the best food that can ever be artificially produced for a child from eight months to two years of age, and they are also firm in their belief that it is the best food now in the market made for children. They have, however, recognized the fact that nature intended that infants, from birth to the eighth month, should have milk alone; therefore they have studied this problem incessantly for for the past year, and have experimented most carefully with a view to producing a food for infants that should closely resemble human milk in composition and digestibility, and should be made wholly from cow's milk. They have been largely aided in perfecting this new product by Professor Attfield of London and by several eminent physiological chemists in this country. This, their latest preparation, will be presented in the form of a powder, and will, in composition, be almost identical with human milk. It is made wholly from cow's milk, with the exception that a portion of the milk fat is replaced by cocoa butter. This substitution was made by the advice of Professor Attfield after he had practically tested it with a number of infants. Cocoa butter resembles fat milk more closely in composition than any other fat and will keep perfectly. In this new Infant Food product the casein of the milk and also the fat are partially digested, and the remaining portion of undigested casein is left light and flocculent like the casein of human milk. They are confident, and the best physiological chemists agree with them, that this preparation is the nearest approach to human milk that can ever be produced and remain permanent. This new product is not intended to supplant Soluble Food, but is more especially designed for use during the first six months. This product will be placed on the market in May and will be called "Lacto-Preparata." Samples will be sent to any physician upon request.

A PROPHET AT HOME.—M. Pasteur has been the recipient of fifteen orders, only one of which is French.

SAWDUST FUEL.—The electric light station at Bath, Me., is burning sawdust in the furnaces there with satisfactory results.

CARPET BUGS.—Flour of sulphur has proved to be an efficient preventive against the ravages of the carpet bugs or buffalo moths.

TO BRIGHTEN BRASS.—Sweet oil and putty powder, followed by soap and water, are efficient means for brightening brass and copper.

A NEW VINTAGE.—Old soaker (at the club dreamily) "I say, waiter, that's the best wine I've had for ages. Bring another bottle." Waiter—"You've had no wine, sir. What you drank was the Worcestershire sauce?" —*To-Day*.

SULPHUR FUMIGATION.—Fumigation by the burning of sulphur is the most common method employed by boards of health in the disinfection of apartments in which contagious disease has existed, and the clothing worn by the patients during their illness. In an address delivered by the distinguished chemist, Dr. E. R. Squibb, before the Kings County Medical Association, he called attention to the fact that there must always be an abundance of watery vapor in the room to be disinfected; otherwise the sulphurous-acid gas generated by the burning of the sulphur is not an efficient disinfectant. The same is true of chlorine gas when used for disinfecting purposes.

Subscriptions \$1 per year. Now is the time to subscribe.

THE LABORATORY.

To Inventors, Manufacturers and Applicants
for Patents

The AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable.

Address, AMERICAN ANALYST,
19 Park Place, N. Y.

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

Descriptive Pamphlet Free.

RUMFORD CHEMICAL WORKS,
PROVIDENCE, R.I.

Beware of Substitutes and
Imitations.

CAUTION:—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. never sold in bulk.

OPPOSITE 5TH AVE. THEATRE.

When going to New York, stop at Sturtevant House, Broadway cor. 29th. Very centrally located. American and European plans.

CALIFORNIA

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Hararthy & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD. New York, } Agents.
C. JEVNE & CO., - - - Chicago, }



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST,
210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GENTLEMAN at Madras, to his brother at WORCESTER, May, 1851.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most wholesome sauce that is made."



**SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.**

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



BLAIR'S PILLS

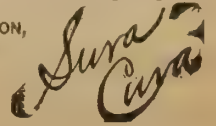
Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York

ROBINSON'S SURE CURE FOR RHEUMATISM And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



C. O. P.

Cotton Seed Lard

ANTI-DYSPEPTIC.

Warranted free from Hog Fat.

PURE, WHOLESOME, ECONOMICAL.

For sale by all Grocers. Send for Illustrated Pamphlet, entitled

"SOME THINGS ABOUT LARD."

BRANCH OF

THE COTTON OIL PRODUCT CO.,

19 West 42d St., New York.

GOOD ADVERTISING AGENT WANTED,

Address, ANALYST PUBLISHING CO., 19 Park Place, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the [Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

AMERICAN ANALYST CLUB RATES.

	Regular	Price including American Analyst.		Regular	Price including American Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

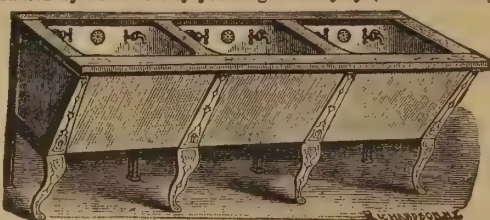
STEWART CERAMIC CO.,

312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).



CANNOT LEAK.

VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top, SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Wash tub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT
A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use night or day, when traveling or at home.

MALTED MILK does away with the danger of using sour or impure milk.

MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.

Ask your physician his opinion of MALTED MILK, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and family use, . . . \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

TO REMOVE FRUIT STAINS.—Pour boiling water on chloride of lime, in the proportion of 1 gallon to $\frac{1}{4}$ pound; bottle it, cork it well, and in using be careful not to stir it. Lay the stain in this for a moment, then apply white vinegar, and boil the table-linen.

SIMPLE BEE-VEIL.—The fear of being stung deters many from keeping bees who would otherwise gladly engage in it, and really, to some, the sting of the bee is no small matter. This, however, can be avoided by preparing a veil for the face. A cheap and easy way to make a bee-veil, and one as good as any, is as follows: Procure a piece of plain black cotton bobinet, sew it up as a sack, and run a draw-string in the end, which can be tied around the crown of the hat, and put a string in the lower end also, to tie around the neck, or simply tuck it around the neck, which will answer quite as well. Should a bee strike the veil with the intention of stinging, the rim of the hat will hold it at a sufficient distance from the face to render it impossible for it to reach the wearer.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In dyspepsia and loss of appetite its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in Phthisis and other wasting diseases, Nervous Prostration, Constipation, Inanition, Malnutrition, Intestinal Indigestion and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.
Acidi Phosphorici $\bar{a}\bar{a}$, grains, ss.
Antipyrin.
Ext. Apii. Grav. dulc. (Celery), $\bar{a}\bar{a}$ grains, j.
Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in Headaches, Neuralgia, Insomnia, Neurasthenia and general Nervous Irritability, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

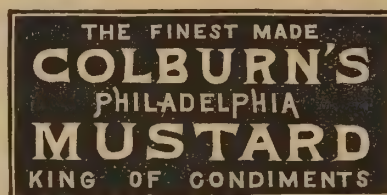
We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	WITH PUBLISHER'S AND PRICE. ANALYST.	DIGEST AND PRICE.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar-		
cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical		
Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE VIBURNUM COMPOUND

OF
DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Leading Numbers: 14, 048, 128, 130, 135, 333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

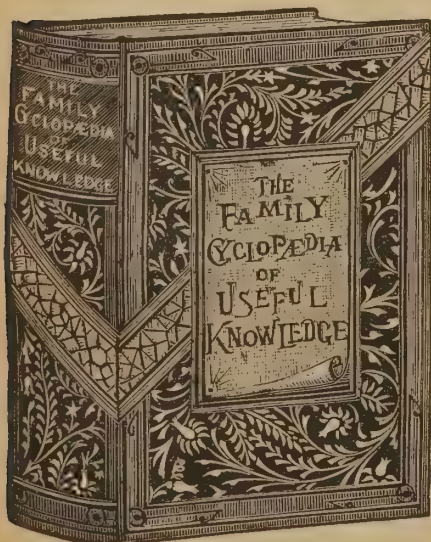


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,
—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

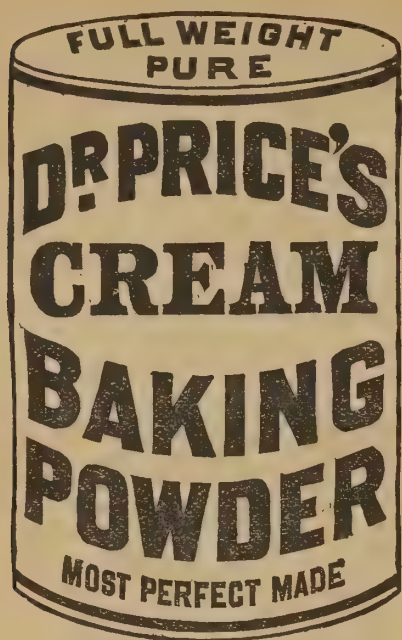
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans. PRICE BAKING POWDER CO. NEW YORK. CHICAGO. ST. LOUIS.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians. Essentially Different from all other Beef Tonics. Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fused Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D. F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already supplied) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

Is the Baby Well,

so that you go to bed every night and sleep through?

RIDGE'S FOOD

is invaluable when children are teething, and in bowel disorders. WOOLRICH & Co. on every label.

STERLING BAKING POWDER



MADE FROM 99⁵⁰ PURE CREAM TARTAR.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.

STERLING MANUFACTURING CO., 12 & 14 Spruce St., New York.

"BILLET" are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

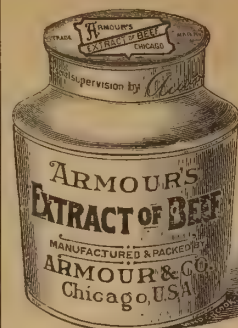
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF FRESH BEEF.

INVALUABLE FOR SOUPS, SAUCES, DELICIOUS

BOUILLON,

And strongly endorsed by the Medical Profession for

INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 19.

NEW YORK, THURSDAY, MAY 9, 1889.

WHOLE No. 115.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Adulteration of Lard.....	220
Condensed Milk.....	221
Correspondence.....	219
Cotton Seed Lard.....	
Dairy Science.....	220
Domestic Dietetics.....	222
Editorial.....	217
Who Uses Oleomargarine? Alum Baking Powders; American Lard; English Brewery Syndicates; A Mean Constituency; A Chance for Our Consuls.....	
Human Food.....	219
Imitation Goods.....	223
Life's Risks.....	223
Malaria.....	221
Milk, Watered.....	218
Strong Food.....	221
Vegetable Hypnotism.....	221

WHO USES OLEOMARGARINE?

One of the points which the opponents of oleomargarine endeavor to sustain is that the commodity in question is sold principally as a fraudulent substitute for butter. As a matter of fact, it is largely purchased wherever the legal hindrances are not too great by persons of moderate means, who prefer its cheap excellence to the expensive slush they would otherwise be constrained to use under the name of the legitimate article. A correspondent of the *Commercial Bulletin*, writing from Washington, April 22d, sets forth this fact with the irrefutable emphasis of statistical proof. The gist of the communication is summarized by the editor as follows: "Statistics of oleomargarine manufacture recently published in our columns gave rise to the question whether the large and increasing production is disposed of mainly to dealers, who may or may

not sell under truthful representations, or to families and consumers, who must be fully informed as to what they are buying. The statement is made in the trade that dealers rarely buy smaller quantities than fifty-pound tubs, while ten and twenty-pound packages are generally for family use. Through the courtesy of Internal Revenue officials, our Washington correspondent has obtained official information that, of the pound tax collected during the past year on the production of oleomargarine in the Eastern States, more than fifty per cent. has been for stamps covering ten-pound packages, nearly seventy per cent. for packages of less than thirty pounds, and about eighty per cent. for smaller quantities than fifty pounds. These figures indicate that a very large proportion of the production has been sold in the smaller packages specially fitted for family use, and presumably disposed of to consumers who buy it knowingly under stamp and brand. So far as official records throw light on the question, their evidence is against the supposition that the consumption of oleomargarine can be attributed to sales under misrepresentations."

ALUM BAKING POWDERS.

There has been much discussion as to the effect upon the system of the use of alum in baking powders. When these arguments emanate from manufacturers little dependence can be placed upon them, and even when they come from chemists they are not always based upon absolute facts. Now, Professor J. W. Mallett, of the University of Virginia has made some experiments, the results of which are published in the *Chemical News*. We reprint the following summary without comment. Care should be taken by the reader not to confound these condemned alum baking powders, which contain as an ingredient the acid phosphate of calcium, with a genuine phosphate baking powder like Horsford's:

In the examination, twenty-seven samples, representing seventeen brands, were analyzed. Nearly all contained as their acid ingredient a mixture of alum and acid phosphate of calcium ("super-phosphate"). All contained as the alkaline ingredient acid carbonate of sodium ("bicarbonate of soda"). After a most thorough and painstaking inquiry into the whole subject, he reached the following conclusions: 1. The greater part of the alum baking powders in the American market are made with alum, the acid phosphate of calcium, bicarbonate of sodium and starch. 2. These powders, as found in retail trade, give off very different proportions of carbonic acid gas, and therefore require to be used in different proportion with the same quantity of flour, some of the inferior powders in largely increased amount to produce the requisite porosity in bread. 3. In these powders there is generally present an excess of the alkaline ingredient, but this excess varies in amount, and there is sometimes found, on the contrary, an excess of acid material. 4. On moistening with water, these powders, even when containing an excess of alkaline material, yield small quantities of aluminum and calcium in a soluble condition. 5. As a consequence of the common employment of calcium acid phosphate along with alum in the manufacture of baking powders, these, after use in bread making, leave, at any rate, most of their aluminum in the form of phosphate (when alum

alone is used the phosphate is replaced by hydroxide). 6. The temperature to which the interior of bread is exposed in baking does not exceed 212 deg. Fahr. 7. At the temperature of 212 deg. Fahr. neither the "water of combination" of aluminum hydroxide, nor the whole of the associated water of either this or the phosphate, is removed in baking bread containing these substances as residues from baking powder. 8. In doses not very greatly exceeding such quantities as may be derived from bread as commonly used, aluminum hydroxide and phosphate produce, or produced in experiments upon himself, an inhibitory effect upon gastric digestion. 9. This effect is probably a consequence of the fact that a part of the aluminum unites with the acid of the gastric juice, and is taken up into solution, while at the same time the remainder of the aluminum hydroxide or phosphate throws down in insoluble form the organic substance constituting the peptic ferment. 10. Partial precipitation in insoluble form, of some of the organic matter of food, may probably also be brought about by the presence of the aluminum compounds in question. 11. From the general nature of the results obtained, the conclusion may fairly be deduced that not only alum itself, but the residues which its use in baking powder leaves in bread, cannot be viewed as harmless, but must be ranked as objectionable, and should be avoided when the object aimed at is the production of wholesome bread.

AMERICAN LARD.

In view of the general discussion that is going on in the papers relative to the introduction into the market of lard containing cotton-seed oil in its composition, we commend our readers to the article on that subject, quoted in another column, from the *Commercial Bulletin* of this city, of April 22d. The case could not be put plainer or be made more clear. The only possible cause of complaint against the large manufacturers of this compound lard is that they ought to sell their product for what it is, has lost its point, from the fact that for many months past not one of these refiners has put out a single package of compound lard without having the same plainly branded in letters at least two inches long "Compound Lard." The only fraudulent lard we know of now in the market is what is often called Export Lard, and is made of the scraps, trimmings, sweepings, spoiled hams, floor-scrappings and dirt, not to mention other and more disgusting makeweights made by the small butchers, and generally known as city steam lard, which is not a compound of anything as clean and wholesome as cotton-seed oil or suet. As this stuff is sold at \$6.85 as against Western steam lard at \$7.62 per cwt. and compound lard at \$6.87, it may be readily seen why the makers of this vile lard cry out so vehemently against clean and honestly labelled compound lard.

ENGLISH BREWERY SYNDICATES.

The more that is learned about the purchase of American breweries by so-called English syndicates the more interesting the subject becomes. In a recent purchase in a city not far from New York the brewers were in-



ROCK CANDY and ROCK CANDY SYRUPS.

For use at the Soda Fountain and in all Pharmaceutical Preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

duced to sell because they were offered considerably more than their businesses were worth to them. The plan there seems to be to pay an exorbitant price and then to water the stock as much as it will stand, the original owners agreeing to buy in one-third of the stock on the new capitalization and to remain and run the breweries as before. The rest of the stock is then to be peddled here and in England on the assumption that there is a great public appetite for brewery stock and that the masses will imagine there are certain to be big profits, either regardless of the watering process or in ignorance of the same.

A MEAN CONSTITUENCY.

The *Produce Exchange Bulletin* with its issue of April 27th, passed out of existence. We sincerely regret this circumstance and especially because it seems to be solely due to the want of proper support from those who have been assisted by the publication. With two or three honorable exceptions, the persons engaged in the manufacture of oleomargarine, have not acted in a way best calculated to protect and advance their own interests. They have been penurious and selfish, have allowed one or two liberal firms to pay the expenses, while they have selfishly appropriated the benefits to themselves and have refused in every instance to bear any of the burdens. There can be no doubt that if these men had taken a more public-spirited and liberal position, many of the proscriptive laws which have been passed to the injury of the legitimate manufacture and sale of oleomargarine, never would have been on the statute books, and several of those laws passed under missapprehension, would long ere this have been repealed. All such laws are the results of legislators being left in ignorance of the facts and subjected to the influence of men having only selfish motives. Legislators must be kept informed of the real wants of their constituents if the latter desire intelligent legislation and this can only be done by the plentiful use of type and printers' ink, throwing light upon the scheming designs of the people, who are invoking the aid of legislation to help them accumulate money at the expense of legitimate competitors and uninformed consumers. We know whereof we speak, when we say that for all the prohibitory oleomargarine legislation these sordid men have none but themselves to blame, and that unless they quickly change their course, they will soon be entirely wrecked on the rocks which they have not had the public spirit to remove from their path. Meanwhile we are sorry for the fate of our late contemporary and hope soon again to see its enterprising editor in the ranks of the fraternity, and represent-

ing some more liberal constituency, than that which has just left him to his fate.—*Vale Produce Exchange Bulletin*.

A CHANCE FOR OUR CONSULS.

Mr. James H. Sanders, of Chicago, who some years ago went to Europe on behalf of the United States Government to investigate the action of the English, French and German Governments with respect to the exclusion of American hog products and American cattle from those countries is in Washington for the purpose of inducing the present Administration to use its influence towards having this discriminating legislation revoked. He is supported in this effort by breeders generally and representatives of the agricultural interests of the country, who have appealed to the State Department for assistance. Their idea is that by the appointment of suitable Consuls and the promulgation of proper Consular instructions on the part of the State Department, much can be accomplished in these foreign countries in the direction of removing prejudices against our products. At any rate, it is thought that the Consuls can be useful in investigating grounds of hostility against these classes of importation, and that the result of such investigations may point the way to international negotiations. Mr. Sanders finds Secretary Blaine disposed to give the matter attention, and hopes that the present Administration will be able to accomplish much in the way of removing these restrictions.

WATERED MILK.

THE NEW YORK SUPPLY LARGELY MADE UP OF SKIMMED AND WATERED MILK.

The local officials charged with the inspection of milk say that large quantities of impure milk arrive in this city every day by the various railroads from points throughout the State. They further state that when the periodical inspections are made at railway depots in the early morning, more or less adulterated milk is always found. From this it would appear that much of the adulteration of which New Yorkers complain is accomplished in the country, despite the supposed vigilance of the State Dairy Department. Mr. B. S. Van Valkenburgh, the Assistant State Dairy Commissioner, denies that any considerable number of producers adulterate their milk, and says that most of the adulteration is done by the wholesale and retail dealers of this city. In support of his position Mr. Valkenburgh quotes the following as the result of the inspection of 28,242 cans of milk last year:

Cans.	Cans Adulterated.
1,720 Creamery milk.....	1
12,890 Farmer's milk.....	76
8,861 Peddlers' milk.....	74
3,405 Store milk.....	139
Total number of cans containing adulterated milk.....	290

The test in these inspections was made with the lactometer, which Commissioner Van Valkenburgh admits is not accurate. The adulteration in each instance was by watering, and the 290 offending cans represent nothing but the quantity of milk that was discovered to be adulterated by the addition of water. Although the Commissioner assumes that the other 27,952 contained pure milk, there is no certainty that such was the case, as by the lactometer test skimming and watering and coloring would not be revealed. Mr. Beebe, who is chief of the Sanitary Bureau of the Board of Health, in reply to certain remarks recently made by Commissioner Van Valkenburgh on this subject, denied that most of the adulteration was the work of city handlers. "We have long recognized the fact that

adulterated milk is brought to this city every day," said he. "With the force of inspectors at our command it would be impossible to prevent this evil. The raids that we make now and then at the railroad depots are not with the purpose of locating and prosecuting the parties who are found in possession of bad milk, but simply to get information as to the quantity of impure milk coming in. When Mr. Van Valkenburgh says that most of the adulteration is done in this city, I think he is mistaken. He is right regarding the quantity adulterated with water, but I think that the larger part of the skimming is done before the milk reaches this city. I will not say that it is through any neglect of duty on the part of the State inspectors that skimmed milk is shipped here. They cannot cover every platform in the district and watch every collector, but lots of bad milk arrives here, and it is useless to deny it. As to adulteration with water, I think there is more of that in the city than in the country, but it is inconsiderable now compared with a year ago. What the Health Board needs is more inspectors. The present force is unequal to the task they are called upon to perform. At proof of this is the fact that with all our inspections, arrests of offenders, punishments and fines, it is very difficult to procure good milk in this city. The lactometer is not perfect but it enables us to get through a volume of work which would be impossible without it."

DRINKING WATER.—Professor Angell, of Michigan University, furnishes the following as a test of the purity of water for drinking: "Dissolve about half a teaspoonful of the purest white sugar in a pint bottle completely full of the water to be tested, and tightly stopp'd; expose it to daylight and a temperature up to 70 deg. Fahr. After a day or two examine, holding the bottle against something black, for whitish floating specks, which will betray the presence of organic matter in considerable proportion."

THE WATCH ANATOMIZED.—The average watch is composed of 175 different pieces, comprising upward of 2,400 separate and distinct operations in its manufacture. The balance has 18,000 beats or vibrations per hour, 12,060,080 in thirty days, 157,630,000 in one year. It travels 1 43-100 inch with each vibration, which is equal to 9½ miles in twenty-four hours, 292½ miles in thirty days, or 3,558¾ miles in one year.

OIL PAINTINGS.—A freshly executed painting may have its colors presented in the mellow tones of the old masters by first covering the back with a coating of Fuller's earth, which absorbs all remaining oil, and then, on removing it, covering the back with a coat of linseed oil, which the colors presently imbibe. This is the alleged discovery of a celebrated French painter.

INVISIBLE LACQUER.—"Ardenbrite" is a new invisible lacquer recently introduced into London. It is so strong as to withstand weather, steam, smoke, sea air or sea water; and gold, silver, copper, steel, brass or iron does not tarnish when coated with it. As it is so fine as to be unseen on the most delicate instruments, the new lacquer has an extensive field of application.

WAX FINISH.—One of the most satisfactory wax finishes for wood is made by boiling a quarter of a pound of white wax with one ounce of pearl ash and one quart of water. It is to be stirred while boiling, the stirring being afterward continued until cold. The composition is to be applied with a paint brush, after which the surface is rubbed until dry with velvet plush.

LETTERING IVORY.—A process of lettering bone or ivory, by sinking the letters into the material in a permanent fashion, has recently been introduced. These ivory plates are taking the place of engraved metal plates for signs, checks, badges and so on. Electrical engineers have also adopted the new plates, which can likewise be applied to organs and piano-fortes.

NEW DOOR OPENING.—A door that opens automatically on putting a coin in the slit has recently been brought out. The door is made double, each half being L shaped and hinged at the angle. They are closed and held fast by a lock which unlocks when the coin actuates it and the door opens. It closes again after the person enters.

CORRESPONDENCE.

THE COTTON SEED LARD QUESTION.

NEW YORK, April 24, 1889.

Editors AMERICAN ANALYST: My attention has been called to an article in your issue of the 21st ultimo, headed "Lard vs. Cotton Seed." The article is preceded by an inquiry from a correspondent signing herself "Miranda," in which she asks for information relative to the wholesomeness and also the cheapness of this product. There are several unintentional inaccuracies in your reply thereto, which I should be obliged if you will allow me space to correct. We are not disposed to argue the question regarding our use of the word "lard," in this connection. That is a subject which admits of argument. However, we do take exception to your statement relative to the amount required to produce the results which are obtained by the use of ordinary lard. You say it takes about three pounds to answer the same purpose as two and a half pounds of good hog lard and that it is sold at a higher price. Replying to your first proposition, we beg to state that it has been proved by repeated experiments (and we are ready to repeat the proof to your satisfaction at any time) that it requires something less than four-fifths of this product to do the same work and do it better than hog lard. In this sense alone it is cheaper, and in the matter of the selling price it is also cheaper, since it is retailed at about twelve or thirteen cents per pound, whereas pure hog lard commands a considerably higher price than this. Furthermore, replying to your statement to the effect that "for many foods it cannot be employed, because of the peculiar smell of cotton seed oil, etc.," we would say that, although this product emits a peculiar nutty odor, such odor does not enter in the least into the food prepared with it, and I venture the opinion that if cooks and housekeepers had been using cotton seed lard all their lives, and the attempt to substitute hog lard therefor were but now undertaken, much louder complaint would be made about the smell and taste of hog lard than of cotton seed lard. I must apologize for intruding at this length upon your valuable space, but I felt that this article called for a reply, and I have no doubt that your sense of fair play will induce you to publish it. Very truly yours,

J. W. TAPPIN,
Manager of the Cotton Oil Product Co.

HUMAN FOOD.

AN INQUIRY INTO ITS VITAL CONSTITUENTS.

According to the Lomb prize essay on "Healthy Homes and Foods," the vital elements or constituents of the latter are not numerous, and may all be embraced in the following counts, namely:

- (1) Albumens or proteids.
- (2) Fats of oils.
- (3) Starches or carbohydrates.
- (4) Inorganic or mineral salts.
- (5) Water.

To the albumen or proteid group belong some of the most important food stuffs. They all contain nitrogen, and for this reason the term "nitrogenous constituents" is used sometimes instead of proteids or albumens. The chief proteids are ordinary albumens, as the white of egg, casein of milk, fibrine of meat, gluten of grains and flour, and legumine of peas and beans. The amount of proteid in the different foods is variable; thus, meat contains from 15 to 23 per cent.; milk from 3 to 4; peas and beans from 23 to 27; grains and flours from 8 to 11; bread from 6 to 9; and potatoes and greens from 1

to 4. When we remember that the blood, muscles, and all the vital organs contain proteids as their chief constituents, we can understand the importance of taking food rich in one or more members of this proteid group. The average workman requires in his daily food the equivalent of four or five ounces of pure proteid. The fats or oils, animal and vegetable, when oxidized or consumed, produce more force than will arise from the combustion of an equal weight of any other food stuff. In cold countries the inhabitants instinctively consume large amounts of fat on account of the heat which is generated from it. The workman requires not less than two ounces of fat per day. Fats are best digested when taken in a finely divided state. To the group of starches or carbohydrates belong a number of well-known substances of similar chemical composition, a majority of which pertain to vegetable foods—the most important are starch, sugar, gum and dextrine. Like the fats, they are consumed in giving energy to the body, though a much larger amount of the carbohydrates is required to yield the same result. The daily need of this food stuff by the average workman is between seventeen and eighteen ounces. The cellulose or cell structure of plants is closely allied to the members of this group, and any cellulose that is absorbed or assimilated must first be converted into sugar. Concerning the group of inorganic or mineral salts, it may be observed that the bones of the adult man contain as much as 70 per cent. of mineral matter, the greater part of which is the phosphate of lime. Smaller quantities of the phosphate of magnesium and the carbonate of lime also exist in blood. The muscles, blood and tissues also contain salts of potash and soda, and some iron. One of the most important mineral foods is common salt or chloride of sodium; but the quantity needed for daily consumption, and of the alkalies, such as soda, etc., is inconsiderable, and need not be stated. Water, though commonly regarded as possessing no nutritive qualities, is in reality the most important of all the food elements that sustain and perpetuate life. About 70 per cent. of the adult body is water. It forms the greater part of the vital fluid, in which it serves as the carrier of other substances, some in solution, others held in suspension. Besides the fluids, the solid tissues contain a greater or less proportion of water; the muscles contain as much as 75 per cent. There is also great loss, or rather use, of water by evaporation from the skin, by exhalation from the lungs, and by excretion from the kidneys and bowels. This loss must be made good by the drinking of water, and by taking foods more or less rich in this constituent. Meat contains about 85 per cent.; milk, on an average, 87; bread, 35; and vegetables and fruits, from 70 to 90 of water. The quantity of this fluid needed per day, by a laboring man, it is impossible to estimate, as it varies greatly with circumstances, the temperature of the weather, humidity of the atmosphere, kind of labor, etc., and is taken in many and varying forms in food supplies of every description. To say nothing of the inorganic or mineral salts and water, the cost of which are merely nominal, the average workman requires daily in his food, in round numbers, not less than four ounces of proteins, two ounces of fat, and eighteen ounces of carbohydrates. What combination of foods will furnish these for the least money? This is an important question, but it should always be borne in mind that the foods suggested are healthy ones. A combination which would cost but little, but which would lead to dyspepsia or other ills, might in the end be quite expensive. It has been definitely determined, both by experience and science, that certain varieties of foods are richest in these vital elements, and are therefore most valuable, and such as contain the most of them, at a given price, and, as a matter of course, the cheapest, and will go the farthest toward sustaining life, health and strength. As a practical illustration of the foregoing, we append two of the daily rations from the prize essay, of the many given, with the per cents. of their proteids, fats and carbohydrates, and approximate cost of ration, aside from cooking,

which would be but a slight item if any considerable number were to be cooked for:

FOODS.	PRO- TEIDS. OZ.	FATS. OZ.	CAR- BOHY- DRATES OZ.	COST.—CENTS.
26 oz. bread.....	.82	0.13	14.35	5 at 5c. per loaf.
2 oz. sausage.....	0.57	0.80	....	1½ at 12c. per lb.
2 oz. oatmeal.....	0.29	0.12	1.90	½ at 4c. "
4 oz. beans.....	0.92	0.08	2.14	1 at 4c. "
1 cz. bacon.....	0.14	0.37	....	¾ at 12c. "
1 pt. milk.....	0.54	0.57	0.76	3 at 6c. per qt.
1 oz. butter.....	....	0.83	....	1½ at 24c. per lb.
1 oz. sugar.....	....	....	0.94	½ at 8c. "
3 5-oz. cups tea.....	....	....	....	1 at 75c. "
	4.28	2.90	19.49	14½
16 oz. bread.....	1.12	0.88	8.53	3 at 5c. per loaf.
2 eggs.....	0.24	0.24	....	4 at 24c. per doz.
2 oz. butter.....	....	1.66	....	4 at 32c. per lb.
1 qt. milk.....	1.08	1.14	1.52	8 at 8c. per qt.
1 oz. bacon.....	0.14	0.37	....	¾ at 12c. per lb.
1 oz. string bean.....	0.03	....	0.06	2 at 32c. "
8 oz. mutton.....	1.86	0.48	....	9 at 18c. "
32 oz. potatoes.....	0.64	....	6.62	2 at 60c. per bu.
1 oz. sugar.....	....	....	0.94	½ at 8c. per lb.
1 oz. dried fruit.....	0.02	....	0.55	1½ at 20c. "
	4.63	3.97	18.52	33½

It will be seen that each of these daily rations contain the requisite amount of the vital elements, and this is true of all the other rations contained in the work.

OUR GRANDMOTHERS' COOKING.

GLEANINGS FROM THE RECIPE BOOKS OF 100 YEARS
AGO.

Old cookery books seem to bring us much nearer to our dead and gone progenitresses, and show us that, though they did not read much, and could do mighty little in the way of spelling, they were simpler, and perhaps sweeter, women than their granddaughters. They could scarcely fail to be so, for the mere exercise of the one art which they practised as an art brought them hour by hour in the most intimate relation with nature and her bounties. In the season when green things flourished hardly a day can have passed without these good ladies themselves going into their gardens to seek the fagot of sweet herbs which was to impart flavor and fragrance to their "ragoos" and savories, or the marigolds which poor Charles Lamb hated so much when they floated on his mess of Charter House pottage, but which Simple Susan's enemy Barbara found so tempting. The greater part of our grandmothers' lives must have been spent in culling simples, expressing juices, gathering fruits, and spying out things to pickle. This was not done haphazard. Was there anything that the women of a hundred years ago did not pickle or preserve? They pickled parsley green to cheat grim winter of some of its terrors; they pickled "nasturtions"—and a very excellent pickle they make. They pickled the large shoots of elder to imitate "the Indian bamboo." "They put out in the middle of May, and the middle shoots are the most tender." They pickled green walnuts "when they will bear a pin to go into them"—which is also done to this day. They were aware that "the clusters of elder-flowers makes (sic) a delicate pickle before it opens," and that to effect this it was only necessary to pour vinegar over them. They also knew that the seeds of elder should be pickled while still green, as a substitute for capers, and that "large cucumbers of the kind called green turley, prepared as mangoes, are excellent, and come sooner into eating." They pickled radish pods, young artichokes, horse-radish, samphire, marigold flowers, and more things than can well be enumerated. Having pickled nearly every green shoot, stalk, pod and seed, they began to do the same by plums, apricots, peaches, currants and grapes. When they set about making jams no fruit escaped them—they even attacked vegetables. When they made cakes it was the same. Parsnips, raspberries, etc., were made into cakes, and red beet-

root, potatoes and oranges into biscuits. Wine-making, too, was then a recognized branch of female industry, and every fruit in turn was chosen as a basis, and some flowers and vegetables—notably cowslips and parsnips—were promoted to the same dignity. There is a very pretty recipe for cowslip mead, made of honey, lemons, seven pecks of cowslip pips, and a handful of sweetbriar. The sweetbriar is a delicious ingredient, but think of picking seven pecks of pips! A recipe is given for making elder-flower wine “from the tree which bears white berries.” We are confidently told that “it drinks very like Frontinac.” Wine of black elderberries is said to be equal to the best Hermitage claret; and another recipe instructs us how to make wine of white elderberries. Or sycamore, birch, walnut, blackberry or balm wines—all these were once made by fair and dainty housewives, and now are made no more. And then there was shrub, wherein to one gallon of new milk, flavored with lemons and Seville oranges, was added two quarts of red wine, two gallons of rum, and one of brandy. Sweet dishes, also, were generally made by the ladies of the family, and there is much play of fancy in the naming of them. In turning over the pages we find directions how to spin gold and silver webs for desert, to spin birds’ nests, to make a Chinese temple or obelisk, a fish-pond with silver and gold fishes, a hen’s nest, with strips of lemon for straw, and eggs filled with flummery, a hen and chickens in jelly, a desert island. “Take a lump of paste and form it into a rock three inches broad at the top, set it in the middle of a deep china dish, and set a cast figure on it with a crown on its head and a knot of sugar candy at its feet,” etc. “If this dish is for a wedding supper, put two figures instead of one,” so the desert island is not so much of a desert after all. Next comes a “rocky island,” and then a “floating island,” with sheep, swans, “or you may put in snakes, or any wild animals of the same sort.” Moonshine is another dish with a pretty name, and there is likewise a recipe for “moon and stars in jelly,” a half moon with seven stars shining out of flummery colored with cochineal and chocolate to imitate the color of the sky. We still have numbers of people among us whose eye for color is as fine as that of the inventor of this; but who now makes moon and stars in jelly? “Solomon’s Temple in flummery” is a yet finer flight of the imagination. A recipe for making an amulet takes our fancy, but loses its attraction when we find it is only Mrs. Raffald’s way of spelling omelet. Who can say how much the construction of some of these quaintly-named and delicately-compounded dishes may have been to our grandmothers? Perhaps it was their poetry, their sphere of art, their one escape from the monotony of their quiet lives.

DAIRY SCIENCE.

THE CHEMISTRY OF MILK, BUTTER AND CHEESE.

Milk, the most important of all dairy products, is in many respects a perfect food, inasmuch as it contains representatives of all the substances which go to make up the animal frame. It is principally composed of water, butter, milk-sugar, casein, and soluble and insoluble inorganic salts. The amount of the principal constituent, water, is very variable, even from legitimate causes, but may be said to average from eighty-five to ninety per cent. Although to the unaided eye milk appears to be a homogeneous white fluid, the microscope shows it to consist of a clear liquid, in which are suspended numerous globules, which make it opaque. These globules consist of milk-fat, or butter, and each one is surrounded by a very thin covering, or membrane. When they are violently agitated, as in churning, these membranes are broken, and the globules of butter cohere together into larger masses. The formation of the butter is, to some extent, dependent on the temperature; and in old times, when the butter resolutely re-

fused to “come,” the trouble was laid to the witches, and a red-hot horseshoe was dropped into the churn, which served the double purpose of frightening away the witches and heating the cream. Cream is the lighter portion of the milk, which rises to the surface upon standing. It contains a large proportion of the fatty matter, and is collected and saved for churning. The buttermilk remaining after churning contains about one-fourth of the fatty matter. Pure butter is principally a mixture of two fats, known as margarin and olein, with smaller quantities of butyryn, caproin and caprin. These fats are all analogous to each other, margarin having the symbol $C_{54}H_{104}O_6$. It is a compound of margaric acid and glycerine, and the margaric acid in turn is probably a mixture of stearic and palmitic acids. These fats are practically identical with those formed in the body of the animal, from which the well-known butter substitute, oleomargarine, is made. The principal chemical difference between the two articles is the lack of the butyryn, caproin, etc., in the artificial product; but, as far as healthfulness is concerned, one is as good as the other. In fact, a good article of oleomargarine is preferable to the poorer grades of butter. Fresh milk, when chemically tested, is found to be slightly alkaline, and this alkali serves to hold in solution a very important substance called casein, which is the basis of cheese. If a little vinegar or other weak acid is added to milk, this substance separates out in the form of curd. The insoluble pellicle which forms on the surface of boiling milk is due to this substance. When milk sours naturally, lactic acid is formed, which neutralizes the alkali, and the casein separates. It also has the peculiar property of being precipitated by the action of rennet, or the mucous membrane of the stomach of the calf. In this case no acid is formed; but the action seems to depend upon the presence of bacteria, or microscopic organisms, in the rennet. If the milk is warmed, it separates more readily; hence when milk that has very slightly soured is added to hot tea or coffee, it “feathers” from the separation of the casein. Chemically, casein resembles albumen, containing less sulphur than that substance. A substance known as legumin, or vegetable casein, is found in peas and beans, which closely resembles that of milk, and is coagulated by rennet in the same way. If, after churning, the casein contained in the buttermilk is not thoroughly removed from the butter, it will induce a fermentation or decomposition, resulting in the production of certain volatile and offensive acids, and the butter becomes rancid. In the manufacture of cheese the casein is coagulated by rennet, pressed into the desired shape and allowed to stand and “ripen.” The ripening process is a fermentation analogous to that produced in rancid butter, and the powerful odor of certain cheeses is due to the same volatile acids. It is only a matter of habit which makes the flavor of cheese agreeable to some persons, while that of rancid butter is repulsive to everyone. Some semi-civilized nations, more consistent than ourselves, will only eat butter when sufficiently “high,” considering the fresh article tasteless and insipid. The different kinds of cheeses are dependent upon the kind of milk used in their preparation, the richer ones being made from milk containing a larger proportion of cream. Stilton cheese is made from a mixture of new milk and cream, Cheddar from new milk alone, Cheshire from milk from which about one-eighth of the cream has been removed, and Dutch cheese from skimmed milk only. The other constituents of milk are of minor importance. Milk-sugar is used, to a limited extent, in medicine; and the inorganic salts, which consist principally of phosphates and chlorides of potash, soda, lime, magnesium and iron, are only valuable as increasing its value as a food. From the earliest times milk and its products have been recognized as the best possible substances for the nourishment of the human body; and the results of modern chemical analysis confirm this belief, and show that they are most perfectly designed to produce health, strength and flesh.

ADULTERATION OF LARD.

COMPOUND LARD SUSTAINED IF SOLD UNDER PROPER REPRESENTATIONS.

The reported action of the French Government adverse to adulterated lard is in accordance with a sentiment to which we cannot afford to remain indifferent. The leading nations of the Old World and the new have declared unmistakably their opposition to the importation into their markets under the name of lard of a compound freely denounced in its own country as an adulteration and a deception. England, France, Germany, Canada and Mexico are in virtual accord on this question, and a verdict to which they all subscribe cannot be attributed to unfriendliness nor a desire to discriminate against a product so important to their people. They have accepted the declaration, persistently made and sustained by committees of our own legislatures and Congress, that our lard trade is largely based on fraud, and they are, one by one, taking steps to protect themselves against deception. It is true that American lard is an important item in the food supply of the world, and that by discriminating against it foreign nations injure their own people; but it is also true that it is an important item of our commerce, and that we cannot afford to invite action by other nations excluding it from their markets. The so-called pure lard movement in this country has resulted in an attack on the integrity of our product that affords ample excuse for restrictive legislation wherever public sentiment insists on fair dealing and honest trade representation, and has supplied the pretext for hostile action wherever the spirit of “protection” or resentment prompts a desire to exclude our lard from a foreign market. In view of the testimony submitted to Congressional committees, we cannot complain of any action yet taken, nor be surprised at more radical measures, if we do not ourselves adopt some means of removing the pretext for prohibitions and restrictions. The case has been made out that of our so-called lard production a very large percentage is not lard in the sense of an unadulterated hog product, but is a compound equally wholesome and nutritious, as well or better adapted to many uses, specially fitted for some branches of the foreign trade, and cheaper than the unadulterated article. The facts in the case have been given as widespread notoriety as has ever been accorded to the merits of any commercial controversy. The so-called refined or compound lard has received its scientific testimonials endorsed by Congressional committees, and its merits and comparative advantages have been as widely and freely advertised as the pure lard movement has exercised its influences. The nations of the world have listened to an unseemly fight between two factions of our lard trade, and have declared their judgment that in the interest of fair dealing our products should be sold for what they are, and that so long as we denounce a large portion of our lard trade as a deception buyers had better protect themselves. In view of the present state of affairs, it seems almost incredible that there should be a difference of opinion as to the advisability of requiring lard and its compounds to be sold under truthful representations as to their character. Deception and misrepresentation can never confer substantial or lasting advantage; but in this case the secret is out, and whatever motive may have existed for concealing the fact of lard adulteration it has been destroyed by the complete exposure. There can be no reason, even on the lowest ground, for refusing to act openly on a state of affairs so generally understood. There should be an acknowledgment of the presence in our own markets and export trade of two distinct articles—a pure and a compound lard—clearly distinguished, plainly designated, and competing for favor on their merits. If the compound lard is recognized and accepted at home, its cheapness appreciated, and its sale conducted openly, it will find as much favor abroad as its merit deserves, and will be as fairly treated. If it is sold under false pretences at home and the inference justified that it fears to forfeit favor by avowing its character, not only will the present contest continue and the crimination of rivals afford pretext for additional restrictions and decrees of exclusion, but the scandal will reflect discredit on other branches of American trade, and exercise influences as injurious and far-reaching in their evil consequences as the attempted deception is demoralizing and dishonest.—*Commercial Bulletin*.

TEMPERATURE OF THE OCEAN.—The bulk of the water of the ocean has a low temperature. It is ice cold at the bottom, even under the equator, but on the surface within the tropics there is relatively a thin film of warm water with a temperature of from 70 deg. to 84 deg. Fahr.

CONDENSED MILK.

WHAT INGREDIENTS ENTER INTO THE VARIOUS BRANDS.

Dr. Walter H. Kent, Chemist of the Brooklyn Department of Health, published, in the *Brooklyn Medical Journal* for March, a very interesting article on the subject of condensed milk. To apprehend the importance of this article, it is necessary to call the attention of the reader to the fact that the public generally supposes that condensed milk is ordinary cow's milk with all that it contained originally, only deprived of a portion of its water, and that, if the quantity of water taken away is replaced, the cow's milk, just as rich and just as suitable for every purpose, is again ready for use. Now, we shall proceed to quote Dr. Kent's article, leaving technical matters and giving his conclusions:

Dr. Koenig makes the statement, that for every 100 parts of albuminous substance in cow's milk there are from 100 to 110 parts of fat, and that this relation must obtain in condensed milk. Or, in other words, the amount of fat must equal or exceed the amount of albuminous substances. It will be remembered that the albuminous substances of cow's milk, or albuminoids, as they are frequently termed, are substances containing uniformly about 15.8 per cent. of nitrogen, and that they are of a sufficiently stable character to withstand the process of the evaporation of the milk without loss. As by the evaporation of milk there is no loss of fat or albuminous substance, and as by the addition of pure sugar neither fat nor albuminous or other nitrogenous substance is added, the ratio of fat to the albuminoids must be the same in condensed as in normal cow's milk,

and on these facts is based the method which Koenig gives. Before accepting the statement, however, that the amount of fat in cow's milk does really equal or exceed the amount of albuminoids, and basing conclusions as to whether a given condensed milk is made from skimmed milk, it may be well to examine the statement as to whether it is really true. This can only be shown from the analysis of normal cow's milk with reference to the amount of fat and albuminoids such milk contains. Fortunately, such analyses have been made so many times by chemists of good repute that little more is necessary than to examine the published results. After giving these results, Dr. Kent proceeds thus: "The rule which Koenig gives is, therefore, good, and with the normal milk of a number of healthy cows taken together it is true that the amount of fat exceeds the amount of albuminoids. If market milk, or condensed milk, or milk condensed and preserved with pure sugar, is found to contain less fat than albuminoids, it may, therefore, be concluded that it is skimmed milk or made from milk deprived of cream to any extent at least proportional to the excess of albuminoids." From the rule which Koenig gives, and which for healthy milk abundant evidence shows to be true, it must be concluded that samples 3 to 19, inclusive, were made from milk the cream of which had been more or less removed. It will be remembered that milk sold in the market must contain at least 3 per cent. of fat; while with several brands of condensed milk, if diluted according to the directions given for making milk, they would contain much less than that amount. The 25 or 30 per cent. of water of the condensed milk is, of course, a remaining portion of the 87 or 88 per cent. which ordinary milk contains:

and I claim many as such—will pardon the presumption on my part of the discussion of a subject that comes more within their province than that of mine. But this conclusion has been forced from observations that reach over a period of many years as a surveyor in the West. I have observed that there were more cases of sickness of this kind during, or immediately after, the season in which there were the greatest number of electric showers or electric disturbances as shown by the surveyor's instruments. I conclude, then, that heat and electricity are the prime causes of "malaria," and that they weaken the stomach and, in a large majority of cases, produce the diseases usually attributed to this cause. I give the thought to the profession, with the hope that it will offend none.—EDWIN WALTERS, in *St. Louis Republic*.

VEGETABLE HYPNOTISM.

THE LAUGHING-PLANT OF ARABIA.

Palgrave, in his work on Central and Eastern Arabia, mentions a plant whose seeds produce effects analogous to those of laughing gas. The plant is a native of Arabia. A dwarf variety is found at Kasum, and another variety found at Oman, which attains a height of from three to four feet, with woody stems, wide spreading branches and light green foliage. The flowers are produced in clusters and are yellow in color. The seed pods contain two or more black seeds of the size of a French bean. Their flavor is a little like that of opium the taste is sweet, and the odor from them produces a sickening sensation and is slightly offensive. These seeds, when pulverized and taken in small doses, operate upon a person in a very peculiar manner. He begins to laugh loudly and boisterously, and then sings, dances and cuts up all kinds of fantastic capers. The effect continues about an hour, and the patient is extremely comical. When the excitement ceases, the exhausted individual falls into a deep sleep, which continues for an hour or more, and when he awakens he is utterly unconscious that any such demonstrations have been made by him.

STRONG FOOD.

HOW SOME CASE-HARDENED PALATES ARE TICKLED AND SOOTHED.

In the Sinclair House restaurant the other morning a guest was waiting for his breakfast at a table next to a *News* reporter's. He poured some Worcestershire sauce into a tumbler, added as much water, and drank it off. Then he dumped half the contents of a full decanter of catsup on his plate and sopped it up with his bread. When the breakfast came, the bread and catsup were all gone, so he ordered a fresh supply of the former, and soaked it in Worcestershire sauce to give it a flavor. "He does it every day," said the waiter; "but he eats a dollar-and-a-half breakfast, so I guess the house does not lose anything. There's a good many cheaper customers that's nearly as bad, though. Ketchup is what they mostly go for, and they go for it so heavy that we never have a bottle on the table, and only bring it when it is asked for. Some are very fond of oil. I've seen a man dump a whole cruet of oil into his plate and soak his bread in it, and eat it. Another one mixes vinegar with his water, and also soaks his bread in it. About the only things they let alone are the salt and red pepper. Mustard and horse-radish they eat by the spoonful, and when cakes are in season they'll take a whole half-pint pitcher of syrup to a ten-cent plate of wheats or flannels. We've got one customer who make as drink for himself out of syrup, water and vinegar, and drinks it before every meal. He says it's good for his

NO. OF SAMPLE	BRAND, ETC.	PRICE.	FAT.	ALBUMINIDS.	WATER.	ASH.
			Per Ct.	Per Ct.	Per Ct.	Per Ct.
1	Bottled Market Milk—dairy A.....	8 cts. a quart.	4.07	3.37	87.08	.69
2	Bottled Market Milk—dairy B.....	8 cts. a quart.	3.81	3.24	87.43	.68
3	Anglo-Swiss Condensed Milk.....	1 lb. can, 14 cts.	5.88	7.03	23.07	....
4	Anglo-Swiss Condensed Milk.....	1 lb. can, 14 cts.	6.06	8.41	26.37	1.88
5	Rose Brand.....	1 lb. can, 10 cts.	7.16	8.32	26.63	1.80
6	Rose Brand.....	1 lb. can, 10 cts.	6.91	8.34	....	....
7	Rigi Brand, Franco-Swiss Company.	1 lb. can, 13 cts.	0.22	....	25.08	....
8	Rigi Brand, Franco-Swiss Company.	1 lb. can, 13 cts.	0.70	8.88	30.90	2.27
9	Eagle Brand, New York Condensed Milk Company.....	1 lb. can, 17 cts.	6.04	8.21	23.69	1.67
10	Eagle Brand, New York Condensed Milk Company.....	1 lb. can, 17 cts.	5.48	7.83	....	....
11	Crown Brand.....	1 lb. can, 15 cts.	6.81	7.89	30.00	1.89
12	Crown Brand.....	1 lb. can, 15 cts.	7.28	7.86	....	....
13	Daisy Brand.....	1 lb. can, 12 cts.	6.13	8.42	26.66	1.59
14	Champion Brand.....	1 lb. can, 10 cts.	6.10	8.41	24.58	1.88
15	Champion Brand.....	1 lb. can, 10 cts.	5.18	8.33	....	....
16	Dime Brand.....	12 oz. can, 10 cts.	4.73	8.53	25.13	1.86
17	Dime Brand.....	12 oz. can, 10 cts.	5.78	8.54	....	....
18	Osprey Brand, S. W. Canfield.....	1 lb. can, 13 cts.	6.51	9.02	26.57	1.91
19	Osprey Brand, S. W. Canfield.....	1 lb. can, 13 cts.	4.93	9.04	....	....
20	Nestle's Condensed Swiss Milk.....	1 lb. can, 16 cts.	9.44	9.18	24.84	2.00
21	Darling Brand, Michigan Condensed Milk Company.....	1 lb. can, 10 cts.	8.77	8.79	24.84	1.81
22	Condensed Milk from wagon, New York Condensed Milk Co.....	.....	10.93	10.16	59.81	2.14
23	Condensed Milk from wagon, S. W. Canfield.....	.....	13.17	10.50	59.43	2.19

MALARIA.

A PHYSICAL DISTURBANCE ATTRIBUTABLE TO ELECTRICITY AND HEAT.

Another delusion is malaria, so called. The word malaria means bad air. The diseases that are attributed to this cause are frequently common in districts where there is no stagnant water or anything else to taint the atmosphere. It will be remembered that during the autumn of 1881 there was an unusual number of people who were attacked by these diseases in southwestern and west-central Missouri and also eastern Kansas, when there had been no rains of any consequence for

months, and that, too, in districts far removed from decomposing water or any other substance. The cause or causes of these diseases were surely not in the air, consequently should not be attributed to malaria. It is more probable that during the dry, hot weather of summer that the heat that is radiated and the electricity that is generated by the sun have an enervating influence on the system—that from the nerve centres this influence reaches the muscular system, principally through the pneumogastric nerve, and the stomach being the most delicate and intricate of almost any of the involuntary muscles, is the principal sufferer from such enervating influence. Indigestion follows as a symptom, and an increase of bile brings what is called biliousness and malaria. I hope my medical friends—

stomach. I'd like to know what his stomach's lined with." The physicians say that this craving for stimulating condiments and odd compounds is due to diseases of the stomach. Hard drinkers and dyspeptics are guilty of the most extraordinary excesses of this character. Cases are cited of men who make meals off bread and mustard, and the drinking of Worcestershire sauce is by no means uncommon. In Munich, where enormous quantities of beer are consumed, the heaviest drinkers, who absorb quarts a day, are constantly nibbling at raw turnips seasoned with salt and bread smeared with mustard. The wine toppers of France, Spain and Italy, consume vast quantities of oil, often drinking a glass of it between a certain number of stoups of wine, whose intoxicating effects it is supposed to offset. In many Italian drinking shops in this city a bowl of peanut or cotton seed oil is kept on the bar, with a dish heaped with cubes of sour bread made from damaged flour, by way of free lunch.—*News*.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

May.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant, pigeon, chicken, duck, turkey, goose, snipe,

FISH.—Anchovy, bass, catfish, cod, eels, clams, flounder, halibut, herring, lobster, mackerel, mussels, perch, porgie, rock-fish, salmon, shad, shrimp, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Artichokes, beans, carrots, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

VEGETABLE SOUP.—One pint of vegetables, including turnip, carrot, onion and celery; cut into small pieces and boil one hour in water enough to cover. Add one quart of clear stock, a little more salt, boil a few minutes and serve.

POTATO CROQUETTES.—Boil four potatoes in salt and water, peel, and pass through a sieve; add a lump of fresh butter, salt and pepper to taste; roll into croquettes on a wooden slab, and sprinkle with flour; cover with egg and bread crumb, and fry in butter; when a good color, dish up, garnished with fried parsley.

CORN GEMS.—One-half pint finely-bolted corn meal, one-half pint flour, one tablespoonful white sugar, half a teaspoonful of salt and two heaping teaspoonfuls of Horsford's baking powder; mix together thoroughly while dry. Then add two well-beaten eggs and cold sweet milk, or milk and water to make a moderately thin batter; bake in Gem pans or muffin rings.

GEN. WASHINGTON'S BREAKFAST CAKE.—Two pounds flour, one quart milk, one ounce butter, one teacupful thin yeast, three eggs, one teaspoonful salt; warm the milk and butter together, and pour it lukewarm into the flour and add the other ingredients; mix this at night, and put in a pan three inches deep; in the morning bake in a quick oven three-quarters of an hour. This is said to have been a favorite dish of General Washington.

MIXED SALAD.—Cut into small pieces some anchovies, pickled tongue, stoned olives, beets, gherkins, bits of lobster and crushed Boston crackers; mix well; cut up the hearts of some heads of good fresh lettuce, put it in cold water, drain; put it in the salad bowl; add the

mixture; cover all with mayonnaise dressing and serve.

CARAMEL CREAM.—Have on the fire in a pan one pound of maple sugar; let it boil two or three times, sufficient to brown but not burn it. Beat six eggs and one pound of white sugar very light; stir this into two quarts of boiling milk, and stir constantly until it comes to a boil; then pour in the boiling sugar, and mix thoroughly. When perfectly cold, add one quart of cream, sweetened with a cupful of white sugar. Put it in a freezer and freeze the same as ice cream.

ALMOND JUMBLES.—One pound of sugar, one-half pound of butter, one pound of almonds blanched and chopped fine, two eggs, flour enough to mix stiff. Roll thin; moisten the top of each one with the white of egg, and sprinkle with sugar; bake quickly.

CREAM WALNUTS.—White of one egg; stir into it sufficient powdered sugar to make it stiff enough to handle, flavor with vanilla; dip the walnuts into a syrup made of two tablespoonfuls of sugar and one of water, boiled three or four minutes. Mould the cream with your fingers, and place between the two halves of a walnut. Dates or Malaga grapes may be used. To make chocolate cream walnuts, stir two tablespoonfuls of melted chocolate into the cream.

FILTERING DRINKING WATER.

THE INADEQUACY OF THE AVERAGE FILTER TO PURIFY THE LIQUID.

Drinking water may be and very often is the carrier of the germs of disease, and can also be rendered otherwise unwholesome by the admixture of foreign substances, both organic and inorganic. It is also a fact that drinking water supplied to cities is often below the proper standard of purity, and in some instances positively bad. The failure of city corporations to supply water of good, wholesome quality, or at least of the appearance of such, has made it necessary for individuals to resort to means of supplying the deficiency. The expedients adopted for this purpose are mainly boiling, and the various methods of filtration. Domestic filtration is commonly employed to strain out suspended matter, and thus clarify the water. A more important object is the removal of bacteria. The efficiency of the various kinds of filters in the market in removing suspended particles is easily tested, but the determination of the efficacy of different filtering materials in removing micro-organisms, requires skillful manipulation in the biological laboratory. Chemistry failed to furnish the desired proof, and no means was available until the culture process was introduced. The application of this test has led to important discoveries, which have exposed the imperfections of filters usually selected for household use, and stimulated the search for materials better adapted to meet the newly imposed and most essential requirements of the process of filtration. In an elaborate paper on the efficacy of filters, read and discussed before the Section of Public Health of the New York Academy of Medicine, Dr. Charles G. Currier, of this city, has contributed some valuable information to our knowledge of the bacteriology of drinking water. It shows that domestic filtration, as commonly practised, is little else than a process of straining, which clarifies the water and not only fails to remove bacteria but, with old filters, constructed of improper materials, or not properly cleansed and sterilized, will add to the water a larger percentage of bacteria than that contained in the water before filtration. Dr. Currier's conclusions, with which we do not agree in all respects, based upon very elaborate experiments, are, briefly: That boiling for thirty minutes will destroy harmful bacteria; that chemical agents are useless for sterilizing drinking water; that ordinary filters do not remove all bacteria from drinking water; that filters of porous rebaked

porcelain are the best, but to insure permanency of action they should be occasionally sterilized throughout by steaming, or other means. When filtration is necessary, it should be conducted carefully on a large scale through sand-beds upon which there is a fine layer of organic and inorganic matter expressly produced by sedimentation. When domestic filtration is employed, on account of danger of infection, the water should, as a rule, be furthermore boiled.

Water, even after having been exposed to various chances of contamination, is very generally drunk as it is received from lakes or rivers, wells or springs, tanks or hydrants; and, despite the most disinterested warnings, people are not ready enough to believe that clear, sparkling water may at times be the most harmful of beverages; that it can carry with it, and introduce into the systems of a portion at least of those who drink it, the immediate causes of various impairments of health. Polluted water may be agreeable to the taste and have no visible sediment, yet cause many deaths. Such water the unskilled are slow to suspect, and but for the advance in sanitary science and the warnings conveyed by those familiar with hygienic studies, pure supplies of drinking water in cities would be much more of a rarity than they are. At the Hygienic Congress in Vienna, in 1887, M. Brouardel stated that he knew of over sixty epidemics of typhoid fever which had been induced by the drinking of infected water. From typhoid fever thousands of deaths occur every year; and, although scientific physicians are constantly urging these facts, it seems to be necessary that the danger present itself in the form of an epidemic before the people fully realize the immense harm which may result from impure drinking water. The epidemic which ravaged Plymouth, in Pennsylvania, four years ago, attracted great attention at the time, but the history of several similar "visitations" since then would indicate that the full value of this severe lesson has not been properly appreciated. Water may be very highly colored, and yet, if freshly collected near its source, show no very large number of bacteria. Such is the case with the best of the peaty "juniper" water which I have examined in various parts of the Dismal Swamp of Carolina and Virginia. Although having a large proportion of organic matter, this water is reputed eminently wholesome, and an inquiry among a portion of those drinking this exclusively, appears to show an unusual degree of immunity from the manifestations of diseases which might be attributed to the effects of improper drinking water. On the other hand, the turbidity which is common at this season of the year in the streams furnishing the water supply of many of our cities, is almost always accompanied by a large number of bacteria, as in these bottles of water which you see here from the Mississippi and from some of the rivers flowing into the Atlantic. The melting snow and the rain, which wash into the streams an increased amount of organic matter, introduce with it other germs (perhaps pernicious), and bring more nutriment than usual to the micro-organisms already in the water, thus increasing their vitality and numbers. It is believed, like most of the varieties of bacteria found in water, the still larger forms of animal and vegetable life, ordinarily existing in lakes and rivers, are not prejudicial to health. It is through the products of the decomposition of many of these, when their life has ceased, that they may become harmful. Chemistry has long furnished a means of recognizing polluted water, even when it yielded no sediment visible to the unaided eye, and the presence of considerable quantities of chlorides, nitrites, and ammonias, determined by the chemical tests, has shown that many a water had more organic impurity than was permissible, and, when far below the accepted standard in this respect, such a water is very justly condemned. Yet it seems as though enough of the infective element of cholera or typhoid to diffuse an epidemic throughout a community can be added to a drinking water and not be detectable by chemical tests. A perusal of the very complete and instructive paper by Professor J. W. Mallet

(in the report of the National Board of Health for 1882) shows how widely such determinations may vary and how unreliable chemical standards may be. The known disease-producing bacteria, however, do not appear to increase in water in which there is not more organic matter than the proportion that chemists of constant and large experience regard as permissible in waters which they pronounce to be of fair quality, although these harmful bacteria, if once introduced there, may long retain their vitality and remain dangerous. Since, as yet, chemistry, when called upon to aid in solving the question of the purity of a water, can at its best only approximately estimate the amount of organic matter present and its state of oxidation, while it fails to inform us whether infective matter be present or not in a given water, it has been hoped that a sure means of recognizing whether a water be in any degree infected was reached when Koch introduced the bacteriological test. This test, while very definite and conclusive under favorable conditions, has thus far been able to decide absolutely in only a small portion of the cases of disease apparently coming from the use of drinking water. Yet in those cases where the bacteria characteristic of distinct disease have been detected in the suspected water, the isolation, culture, and identification of the disease-producing species furnish a convincing proof of the great value of the method.

To be continued.

LIFE'S RISKS.

HOW THE WORLD IS CLAIMED TO BE FULL OF DEATH-TRAPS.

The worst enemies of the human race are the doctors who try to prolong our miserable existence in a world

that is full of death-traps. One medico tells you not to eat or drink what you relish because you will eat or drink too much. Another says that you must only eat what you fancy, because otherwise you will bolt your food without giving to each morsel the thirty-six mastications which are necessary for digestion. You must wear a respirator over your mouth, a pad on your chest and a swathe of flannel round your loins. If you live in town you will die of fog; if you go to the country you will be poisoned by bad drainage; if you drink water you are tempting the typhoid fiend; milk spells scarlatina, and tea-cake is sudden death. Do you shun these tempestuous pleasures of the senses and take refuge in the recreations of the mind? Do you borrow a novel from the circulating library? That is to import the germs of disease into a healthy household. The volume in your hands may have been perused by a person recovering from an infectious illness!

IMITATION GOODS.

THE PUBLIC TO BLAME FOR DEMANDING IMPOSSIBLE CHEAPNESS.

This is an age of cheap and poor imitations. There is scarcely a valuable commercial commodity that is not imitated with more or less success, and the worthless imitation palmed off upon a public always ready to be humbugged. In clothing, in household furniture, in groceries, provisions and all manner of goods and chattels there is more or less sham and shoddy. It is in fact almost an impossibility to purchase honest goods at reasonable prices. Humbugging the public is getting to be one of the fine arts. Dishonesty is apparently a necessity with many people who cannot keep up their extravagant style of living without acquisition of money

for that purpose by cheating, defrauding and deceiving others. This is the age of veneer; every comfort and pleasure of domestic life is sacrificed for outside show. Many people will undergo many actual privations in order to keep up a stylish equipage or reside in a stone-front mansion on a fashionable street. These are the people who buy cheap and adulterated groceries, who pinch their stomachs, undermine their health and often go without necessary clothing in order to be considered high-toned and "swell." Our principal cities are filling up with a certain class of men who have grown rich rapidly. Very few of these have acquired wealth by straightforward business methods. Some have acquired fortunes by lucky speculations, some by the appreciation of real estate or personal property, but most by trickery, fraud and the exercise of superior greed and cunning. Could the American public know and fully realize what the vile stuff is that it is eating, drinking, wearing and spending its hard-earned money for there would be little short of a revolution. Beware of suspiciously cheap goods, particularly when they are offered by comparatively unknown or irresponsible parties. You can take it for granted that something is wrong when any staple commodity is offered to you for less than the regular market price. You must bear in mind that if the practice of selling sham and shoddy goods is ever suppressed, it must be done by concerted action of the country merchants. The trade will be supplied with spurious articles of every conceivable kind so long as there is a general demand for them.—*Criterion.*

PASTEUR'S SUCCESS.—At a recent lecture in London on the Pasteurian methods Professor Horsley stated that the use of these methods of treatment had reduced the mortality in cases of hydrophobia from 15 per cent. to 1.3 per cent.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

NOT AT ALL THE CLIMATE.

It is a subject of common remark among European medical practitioners that dyspepsia and kidney complaints are infinitely more common in the United States than in the Old World. The fact used to be attributed to the climate, just as Europeans a little less than fifty years ago attributed to the brilliancy of our atmosphere the great superiority of American daguerreotypes, until our American artists went over there and proved conclusively that the credit belonged wholly to their greater skill. Our climate is no more responsible for the prevalence of those maladies among us than the atmosphere was for the better pictures. If there is any credit due for them, it all belongs to us, ourselves. We live altogether too active and fast a life; wear out too rapidly our brain and nerve tissues; exact too much from the organs upon which we have to rely for keeping up our vital energies and getting rid of the products of our excessive wear and tear. We eat in haste, with a mania for concentrated and stimulating foods; plunge into active brain-work immediately after we have gorged ourselves, thereby hindering the processes of digestion, and allow ourselves insufficient time for healthful exercise, or for necessary recuperation in sleep. When our appetites fail, we first tempt our palates with rich food, savory sauces and toothsome tit-bits. When those pall upon us, we force our reluctant appetites by high seasoning, alcoholic stimulants and treacherous drugs. About that time we are prone to mention to our friends that we "do not feel just exactly right," and, in compliance with their suggestions, or what we erroneously think we ourselves know, we begin dosing for the relief of symptoms. "Heart-burn," or sour stomach, strikes us. While it is a novelty to us, we think it feels like a flame from the infernal regions, inside us. When we grow accustomed to it, we deliberately conclude that it is a little worse than that. Of course, we clutch at any temporary relief, and hasten the destruction of our stomachs with bicarbonate of soda or some other strong alkali. For relief of the sensation of a heavy leaden ball in the stomach, we shovel in bismuth, and get mighty little good from it. We cannot sleep well, but chloral hydrate and brom. pot. fix that—for a while. Our bowels are inactive; well, there are bushels of pills in the drug stores, strong enough to agitate the insides of brass monkeys, and when their reaction increases our constipation, we can take more and more of them.

Somebody sympathetically assures us that our breath "would stop a clock," so we chew spices and swallow charcoal. Pimples, sties and boils break out on us, and we try to cure them with Somebody's "skin soap." We have bad pains in our backs, and we slap on plasters. So we go, through a long chain of symptomatic affections, each of which we vainly try to cure with some specific palliative, never really touching the real cause of the whole trouble. No other vital organs are so sensitive and prompt to make it known when anything is the matter with them, as the stomach and kidneys. It is astonishing how long a person may loaf around among the living with only a piece of a lung, or a diseased heart; and we all know lots of people of whom it is said, all their lives long, that their heads are "not quite right." Even the liver, that big tyrant, puts up with a great deal. But when anything goes wrong with the kidneys, they not only make keen suffering themselves, but spread it rapidly to other centres, and induce a whole train of dangerous—and some of them incurable—maladies. And they are so apt to suffer through their generous willingness to shoulder the responsibilities of the liver when it, afflicted by a well-grounded sense of injury, grows sulky, torpid and lazy. There is no use doctoring them only. You might as well try by poulticing a bunion to cure a broken leg, as attempt to restore health to diseased kidneys when the bowels are constipated, the liver torpid and the blood impure. Simultaneous treatment of all the organs, stimulating and strengthening them, and purifying the blood is the imperative necessity of the hour, and for this service you can resort to nothing so certainly or speedily efficacious as Ayer's Sarsaparilla, the best of all alterative and tonic medicines.

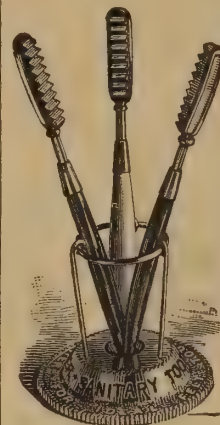
TANNING BY ELECTRICITY.—A Swedish inventor has applied the alternating electric current to a commercial problem so successfully that its use bids fair to revolutionize the tanning industry both in this country and abroad. The process has been in successful operation in Sweden for eighteen months, and an experimental plant has been established here to demonstrate its value, as the owners of the patents in this country are determined to verify all claim for the process before its actual introduction. Patents are held in seventeen different countries. By the process it is claimed that sole leather can be tanned in 800 hours by the application of an alternating current for one-eighth of the time, the old methods requiring six months.

OIL FUEL.—An English firm has been using petroleum for fuel in a torpedo-boat and getting a speed of twenty-one knots. The oil is carried in the vessel's double bottom.

JAVELLE WATER.—Javelle water, used to remove tea, coffee, grass, and fruit stains from linen, is made thus: Mix well in an earthen vessel one pound of sal soda, 5 cents worth of chloride of lime and two quarts of soft water.

INSANITY AND SEX.—The Medico-Legal Society of New York City has sent out circulars containing questions to be submitted to those in charge of insane patients, with a view to finding out what proportion of the insanity in this country is the result of sexual causes. The chairman of the committee in charge of the inquiry is Edward W. Chamberlain, 120 Broadway, New York City, who will be glad to hear from any one having facts on the subject in question to communicate.

CHEMISTRY'S TRIUMPHS.—A scientist of this city said recently concerning the alleged corner in sugar: "Let these cornerers beware. We are now operating in the domain of chemistry to procure various articles of food from inorganic substances, and a substitute for sugar, known as benzoic sulphinate, is now attracting the notice of chemists. Its sweetness is 300 times that of sugar and it is a purely inorganic compound. The discoveries of modern chemistry will hereafter be utilized more than they have yet been in the way of providing food for mankind."



IF YOU ARE SICK and cannot raise your head, use the **IDEAL FELT Tooth Polisher**

to greatly add to your comfort.

If you are **WELL** and would enjoy life's fullest blessings, use it to increase your health and happiness. If you live in **Society** use it to improve your appearance. If you live in **Solitude** use it to preserve your teeth. If you are **Rich** it will make you richer. If you are **Poor** it will save you money.

WHATEVER YOUR AGE OR CONDITION YOU CANNOT AFFORD TO BE WITHOUT IT.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

C. O. P.

Cotton Seed Lard

ANTI-DYSPEPTIC.

Warranted free from Hog Fat.

PURE, WHOLESOME, ECONOMICAL.

For sale by all Grocers. Send for Illustrated Pamphlet, entitled

"SOME THINGS ABOUT LARD."

BRANCH OF

THE COTTON OIL PRODUCT CO.,
19 West 42d St., New York.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for Dyspepsia, Diabetes, Debility & Children's Food. No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR**. Send for circular offering 4 lbs. free. **FARWELL & RHINES, Props., Watertown, N. Y.**



Upstairs and Down

From Garret to Cellar, in the Laundry, Kitchen, Butler's Pantry, and Bath Room—JAMES PYLE'S PEARLINE has its place. There's nothing too coarse—nothing too fine for it.

With the aid of PEARLINE a delicate woman can clean house and wash clothes. It virtually takes the place of hard work, and is perfectly harmless; in fact, your things last longer, because you do not have to rub them to pieces to get them clean. PEARLINE is for sale everywhere, but

beware of the numerous imitations which are peddled from door to door—they are dangerous.

CALIFORNIA

Fine Table
Wines

From our Celebrated
Orleans
Vineyard.

Charles H. Harbottle & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

PARK & TILFORD. New York, } Agents.
C. JEVNE & CO., - - Chicago, }

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

THE DETROIT FREE PRESS SAYS:

In going to New York to stay a day, a week, or month, you want moderate prices and central location. The Sturtevant House, Broadway cor. 29th Street is all that can be desired, and nearly 2000 cars pass its doors daily.



BLAIR'S PILLS

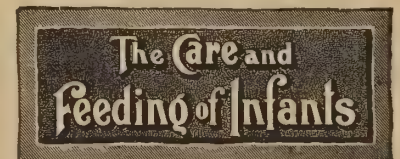
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, COODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

Robert Gordon's
TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

ROBERT GORDON'S CONDENSED CLAM CHOWDER,

In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. F. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, ONLY THREE possessed the power of acting on starch. These brands were **MALTINE**, Corby's, Stacey & Co.'s Extract, and Keppel's Malt Extract. **WILLIAM ROBERTS, M.D., F.R.S.**

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. **R. H. CRITTENDEN.**

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnin.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatin.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the **AMERICAN ANALYST.**



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY

DERMATOLOGIST,

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct

him in the sale of Harriet Hubbard

Ayer's Recamier Toilet Preparations

and Vita Nuova, should address THE

RECAMIER MFG. Co., 52 and 54 Park

Place, New York City.



LADIES

Enamel your Ranges twice a year, tops once a week and you have the finest-polished stove in the world. For sale by all Grocers and Stove Dealers.

GORDON & DILWORTH

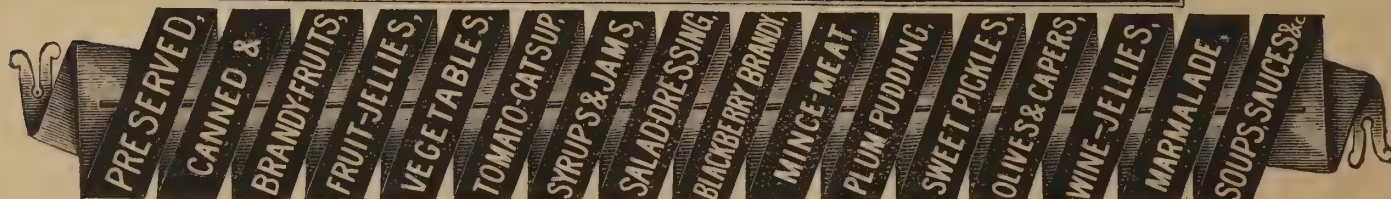
MANUFACTURING PURVEYORS
Established 1847

ALIMENTARY PRODUCTS
ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS
GORDON & DILWORTH
563 & 565
TABLE DELICACIES
GREENWICH ST.
NEW YORK
OLIVES CAPERS, SALAD, MINCE MEAT, PLUM PUDDING, &c.

CHOICE & DESSERTS
OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism, Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

2 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

73 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS

AND
PRIVATE FAMILIES

—BY—
Beadleston & Woerz
291 W. 10th St. New York.

Orders by Postal Card
promptly attended to.

LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

FAC SIMILE OF THE LABEL OF



THE BEST SCOURING AND CLEANING SOAP
IN THE WORLD.

Costs as much to manufacture as Sapolio, yet sells at about half the price (\$2.75 per box of 72 cakes). Can be retailed for as much with equal or better value to the consumer, although it is generally sold at 5 cents a cake. Cut this out and ask your Jobber to send you a box of *Pride of the Kitchen*. It is worth trying.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM

AND NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

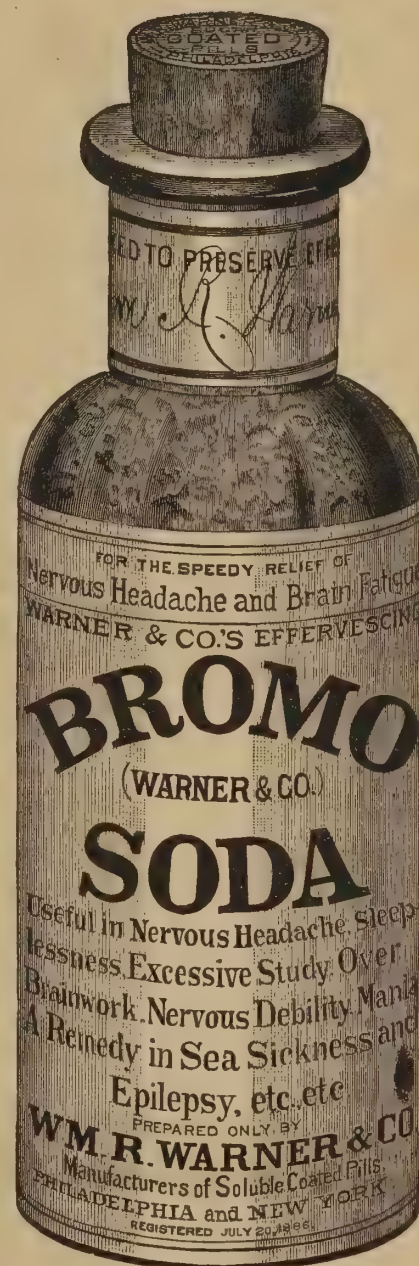


Sura Cura

A CURE

FOR

Sick and Nervous HEADACHES.

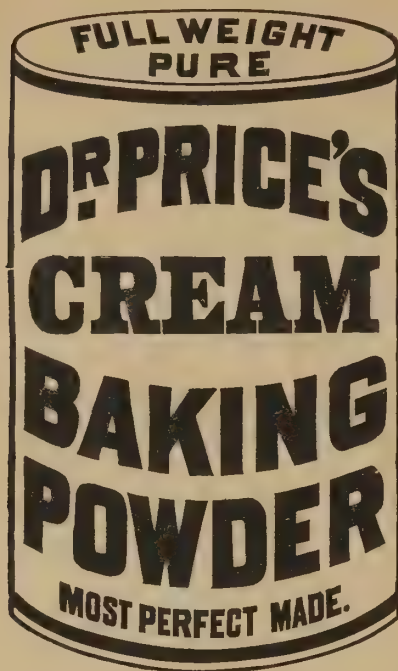


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.
PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the [Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

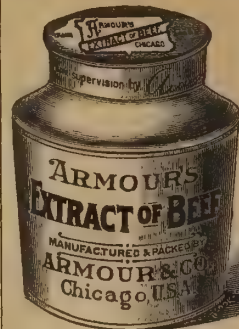
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

**SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.**

**ARMOUR'S
EXTRACT OF BEEF.**

**MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.**

**INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS**

BOUILLON,

**And strongly endorsed
by the Medical
Profession for**

INVALID'S BEEF TEA



[FLUID.]

**COLDEN'S
LIQUID
BEEF TONIC.**

**AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.**

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist **ARTHUR HILL HASSELL, M.D., F.R.S.**, and an endorsement by **SIR ERASMUS WILSON, F.R.S.**, is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of **SOLUBLE CITRATE OF IRON**, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS, FL. COMP. (COLDEN). It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the **AMERICAN ANALYST.**

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 20.

NEW YORK, THURSDAY, MAY 16, 1889.

WHOLE No. 116.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Cheap Beef	232
Cheap Catering	233
Domestic Dietetics	233
Editorial	239
A Beef Boomerang; What the State Boards are Doing; The Big Meat Company; The Inspection Humbug; Plumbers vs. Doctors; The New York State Board.	
Filtering Drinking Water.—Continued	230
Metropolitan Prices	231
Milk, Natural and Condensed	232
Pain, Measuring	231
Wall Paper Dangers	232

A BEEF BOOMERANG.

The Western dressed beef traffic has been given a setback by the discovery of Cattle Inspector Rast that diseased live stock in a terrible condition had escaped the inspectors who are charged with the duty of inspecting cattle at the Western live-stock markets. There were seventeen cattle in one car all afflicted with lump-jaw, and an attempt was made to escape the local inspector at East Buffalo. The cattle came from Kansas City and were consigned to the Jacob Dold Packing Co. Instead of unloading at the usual place the car was run around on Dold's slaughter-house switch. The East Buffalo cattle men discovered the condition of the cattle and notified the Health Authorities. Dold's men claimed that they were going to reship the cattle West, but Inspector Rast consigned the carload to the fertilizer factories. Dr. Dorr said, after inspecting the cattle, that if a needle were run into one of the diseased lumps and a man were then inoculated with it it would cause his death. This disease is of a virulent type and the flesh of cattle afflicted with it is poisonous. This case is regarded by East Buffalo live-stock men as an argument in favor of passing the bill pending in the Legislature compelling the slaughtering of live stock in this State, and shutting out the Chicago dressed beef monopoly. Friends of the monopoly say that no diseased

cattle could get through Kansas City or Chicago. One of the leading live stock men said: "If there were any kind of inspection in Kansas City those cattle would have been condemned and not allowed to get as far as Buffalo. The authorities here, and in fact in all other cities, kick pretty hard if a small pox patient is let loose upon the town from another city, and there is little difference when it comes down to health. Do you, or any live man, imagine that they cut tenderloins out of fine, healthy cattle up there and pack them in cans for the New York market? Not much. That Western beef can't hang alongside of home-butchered beef half the time before it is unfit to eat."

The above sensational paragraph, embellished with a variety of stomach-curdling head lines appeared in all the papers of this city on the morning of Sunday May 5th. It purported to be a despatch from Buffalo of the preceding day. We reproduce the screed in order to append to it the single statement that the only meat traffic which has received any set back in the manner above related, and which justly deserved it, is the meat traffic in Buffalo. The carload of cattle here referred to was evidently the refuse of Western cattle yards, which could not pass the rigid inspection there, and could not have been sold to the Western beef-dressers. The Jacob Dold Packing Company to which this carload of poor miserable stock was consigned, is not one of the so-called "Big Four," and has no connection with any of the firms generally included in the "Big Four." The cattle should have been inspected by the inspector at Buffalo, but owing to the defective regulations of the Buffalo stock yards, were surreptitiously run on Dold's private track, and but for an accident would have escaped detection. Such a thing could not possibly occur under the stringent rules of the Chicago stock yards. This incident proves the advantages of National inspection over local inspection, and, also the greater care exercised in Chicago than in Buffalo, and further shows what may be reasonably expected in Buffalo under a State inspection law. Again, Dr. Dorr, of Buffalo, is entirely wrong in his statements as to the disease called lump-jaw. It is purely a local parasitical disease of an ulcerative nature and does not affect the meat of the animal in any way, though it looks sufficiently repellant to prevent any decent beef-dresser from purchasing such cattle. In Chicago they would be at once seized and consigned to the rendering tanks. It is thus readily perceptible how this sensational story, aimed at the Western beef-dressers, has reacted against the dishonest tricksters who sought to impart to it an entirely different significance.

WHAT THE STATE BOARDS ARE DOING.

The secretary of the Michigan State Board of Health has just issued his sixteenth annual report. The most important article in the report is a paper in which reports of sickness and meteorological conditions are so grouped as to show the relation of certain meteorological conditions to diseases of the lungs and air passages. This paper not only presents evidence concerning these diseases in Michigan, but also in the United States

armies, in the native troops of India, and in London, England, for a period of thirty years. These facts, gathered over wide areas, seem to show that influenza, tonsillitis, bronchitis and pneumonia have one controlling cause, viz., the inhalation of cold, dry air. The paper explains the order of succession of the cold-weather diseases, from a simple coryza, or common cold, to pneumonia. Tables and diagrams are also presented showing that a few of the communicable diseases, which, as a rule, gain access to the body through the air passages, are quantitatively related to the atmospheric temperature, almost invariably rising after the temperature falls and falling after the temperature rises. The writer's explanation is that the albuminous exudations which result from the inhalation of air colder than usual supply a place favorable for the reception and reproduction of the specific germs of these diseases. Other articles in the report deserving special mention are a document giving rules concerning the prevention and restriction of small pox, and especially a paper on communicable diseases. The reports compiled in this last article show that in those outbreaks of scarlet fever and diphtheria in Michigan, in which isolation and disinfection were neglected, there were four to five times as many cases and deaths as in those outbreaks where these precautions were taken. This evidence is all the stronger because it is in harmony with the facts collected during the previous year. Together, they indicate a saving during the two years of 11,180 cases and 1,635 lives by restrictive measures in these two diseases.

THE BIG MEAT COMPANY.

A great deal of free advertising has been given lately to the American Meat Company. The scheme amounts briefly to the fact that some wealthy men connected with the Standard Oil Company and Cottonseed Oil Trust, interested in Western cattle ranches which were not so profitable as they were expected to be, generously concluded to allow the confiding public to take them off of their hands. They gilded the glittering hook with the bait of a direct meat supply company. Having made a serious mistake in their first effort by employing an official who could not possibly be of any value to the company, they now reorganize, put an ex-United States Senator at the head of the new concern, and a Congressman in the board of directors, and are ready to receive the people's investments. The real motives and objects are cunningly hidden behind pretended secret wire pullings, which are exposed with a great show of seeming reluctance. Dark hints of plots by the Cotton Seed Oil Trust, and counterplots by the "Big Four" of Chicago, with alternate checkmates are put forth in order to make the investing public believe that there are enormous future profits to fight for. We wonder whether it does not occur to such speculators looking for investments in apparent monopolies with brilliant prospects, that whenever investments of that character are to be made, the capitalists

30 Shaves



for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

of the Standard Oil Company have money enough to keep the bonanza among themselves, and would not need any outside help. To be invited by such men to invest in what they don't want themselves, suggests that they believe in the old adage of a fool and his money being soon parted.

THE INSPECTION HUMBUG.

The Missouri Legislature on the 3d inst., rejected the beef inspection bill, which the agitators of that measure were so confident would become a law in Missouri. The same adverse action had already been taken in Ohio, Nebraska, Connecticut, Pennsylvania, and will doubtless be followed by New York. How the great Constitution annihilators have petered out! The public are the gainers wherever the foolish proposition has been repudiated. The case of Minnesota is directly in point. In that State it was positively declared by the friends of the inspection bill, when they were working for its passage, that if it became a law the consumers of meat would not have to pay a cent more for their steaks and roasts than before its adoption. The bill became law, and the "Big Four," the Chicago and Kansas City monopolists, who supplied the State with cheap and tolerably good beef, were shut out, and the Twin Cities were left to the care of a home industry. A despatch from St. Paul says that in that city and Minneapolis "the supply of meat has been curtailed, and the price of beef has gone up from 2 to 3 cents per pound. There is also reported an absence of what is known as "fine cuts"—surloins, ribs, and porterhouse steaks. The retail butchers do not appear to have made any perceptible change in their scale of prices, but it is noticeable that the quality of the meat has deteriorated. Where the consumer could formerly obtain a fine cut for 12½ cents per pound he is now charged that price for an inferior piece.

PLUMBERS vs. DOCTORS.

The opinion, and it is to be hoped it is one that will be verified in spirit at least, is expressed by the *Sanitary News*, that the time will come when the plumber will be employed as the family physician is, and have reposed in him the same confidence. Intelligence is fast reaching that point, and it will soon be learned that more visits from the plumber will make fewer visits from the doctor necessary. Regular visits from the plumber for the purpose of inspecting the plumbing and keeping it in good repair will take the place of the regular visits of the physician for the purpose of curing the ills of the body, caused by the defects of the

plumbing. Out of all the cases reported where sickness has been caused by defective plumbing, or plumbing out of repair, not one would have occurred had a plumber been called in time. This would have prevented the suffering and loss of time caused by sickness, and at a much less expense than that caused by the necessity of medical attendance.

THE NEW YORK STATE BOARD.

The New York State Board of Health held its annual meeting in this city on May 8, and re-elected all the officers of last year. Dr. Balch, of Albany, the Secretary, said in his report, that the board examined into the healthfulness of cotton seed products for food, reaching the conclusion that there was nothing injurious in them. The sanitary condition of the State was reported to be much improved. The number of deaths for the first quarter of the year was 26,000, a little less than for the corresponding period of the previous year. Seventeen per cent. of the deaths were due to zymotic diseases. Scarlet fever had been more prevalent than usual. There had been a marked decrease in the number of deaths from diphtheria, and small-pox had almost disappeared.

FILTERING DRINKING WATER.

THE INADEQUACY OF THE AVERAGE FILTER TO PURIFY THE LIQUID.

(Continued.)

The method employed is a simple one. Usually one cubic centimetre of the water to be tested is added to ten cubic centimetres of nutrient jelly, made by solidifying very nutritious beef tea by the incorporation of one-tenth its weight of gelatine. Everything being done with rigid precautions, the water to be tested is added to the nutrient jelly, which has been softened by being warmed to a little more than 30 deg. Centigrade. This is then quickly mixed and poured upon a cooled glass plate, where the fluidified gelatine soon becomes quite solid. Then the germs in the water, being scattered evenly throughout the mass, exercise their functions of rapidly multiplying at the room temperature; and, in the nutritious medium, the minute microscopic individual has perhaps by the third day become a dot as large as a pin-point, or much larger, containing thousands or millions of newly formed bacteria. These are called "colonies," and vary considerably in appearance, as will be seen by comparing the plates made with various waters. With a glass ruled into centimetre squares the number can be counted or estimated. If a large number of thousands be present, as in waters artificially prepared for tests and in sewage contamination of water, the only way to arrive at an accurate estimate is to employ in the eye-piece of a microscope a micrometer square, as first used, I believe, by Dr. Edw. K. Dunham, who combines with it the aid of an automatic counter. After determining the number, we isolate and identify the species as in general bacteriological study. There are many features of the subject which must be omitted in a paper of this scope, for they may not interest all, while the limits of the usual time allowed must be respected; and as the important points are to be discussed by eminent experts, I will not linger over the still unsettled question as to the absolute value of mere numbers of ordinary water bacteria in determining the sanitary merits of a water. It is, however, admitted that the fewer the varieties present, the less is the likelihood of sources of contamination affecting the water. In examining a considerable number of samples of water from various sources, I have observed that the less chance of contamination there was, the fewer bacteria have I found in the waters. Thus, fine mountain lakes and springs have never in my experience, unless under very unfavorable conditions, shown as many as one hundred bacteria in each c. c., while the same quan-

tity of water from a river draining thickly peopled valleys may show more than fifty times as many. While it offers less striking extreme differences than I have seen in the Hudson Valley and elsewhere, the Passaic water-shed may be briefly instanced as illustrating what I have just said. I give it because it is the smallest one near us offering every phase of importance in this connection, and because the subject of a supply to come to New York from that source has been seriously considered. The best of the upper lakes of this system showed on a pleasant day of the past winter only fifty-seven germs developing in the nutrient gelatine, while the Pequannock and other tributaries into which these lakes flow showed, in the samples collected as nearly at the same time as possible, over three hundred and fifty germs, which number increased as the water was taken further down stream, while at the Passaic Falls, in Paterson, over a thousand were detected in each c. c. Water from the hydrant in Newark, at the same time, showed nearly four thousand germs of bacteria in each c. c. The Newark water supply is at present derived from the Passaic, some miles below the place where sewage from Paterson is discharged into the river. As in chemical, so in bacteriological water examinations, those who have had the broadest experience and who are most careful are best in a position to pronounce an opinion. Apart from any personal equation, there are still limitations to the entire comprehensiveness of the method. I may mention that bacteria are recognized as present in the human body and in its products and changed tissues, which bacteria are never found to live on the gelatine or other water plates. Then, too, a water may be submitted for examination when all the obvious infection has disappeared, or has become exceedingly diluted, and hence a most painstaking test then fails to reveal the presence of the characteristic micro-organism. The period of incubation, after the infection and before the symptoms are recognized, may in Asiatic cholera occupy the greater part of a week, and in typhoid often lasts for two weeks or more, so that all traces of the harmful bacteria may have left the water before it is suspected. By reason, also, of its likeness to various harmless species, and its tendency to be overwhelmed by other more rapidly developing forms, the "colony" of the disease-producing species may be hard to identify. In this respect typhoid is decidedly more difficult than cholera to recognize in ordinary water. For those who believe that bacteria of certain kinds living in water, and with this introduced into the alimentary canal, can in many cases induce disease, this test, being so precise and delicate as it is, must appear the best way of determining whether the filters and other means in common use are efficient or otherwise in removing the dangerous elements from impure water passed through them—in short, whether they act as "disinfectants" of the water.

As various other agencies are used in conjunction with, or as supplementary to, filtration, it is proper that I here indicate how far they serve to purify drinking water. One of the most prevalent means directly resorted to for this ostensible purpose is the admixture of wine (usually red). Adding this to an equal amount of Croton water, I find that a varying proportion of the bacteria are killed, sometimes less than half, even after the mixture has stood for days. The spirituous alcoholic beverages (having from 45 to 68 per cent. of alcohol), mixed with Croton hydrant water in equal parts, cannot be depended upon to kill all of the bacteria, especially when "earth" bacteria are present, and a small percentage of whiskey (less than 20 per cent.) has very little effect in this direction. In malt liquors, as lager beer, the prolonged boiling in the brewer's kettle has destroyed the bacteria of the original water, even if they be of the most harmful and resistive species which we meet here. Various kinds, however, if present in vats, kegs and bottles (because of imperfect cleansing), will live in beer. Almost all the artificial mineral waters that I have examined are made of unsterilized water. Pressure of carbonic acid gas, and contact with it for

days, reduces greatly the number of bacteria in a mineral water, yet the typhoid bacillus and others will live for days in Seltzer water. In New York I have found many bacteria in the few carbonated beverages that I have examined.

Of the various acids which it is occasionally safe to employ, chemically pure hydrochloric acid must be used in the strength of at least one-half of one per cent. to destroy all the germs in Croton water to which *B. subtilis*, *B. typhoid*, and other bacteria have been added; and may fail to sterilize the water even after hours of standing thus acidulated. Sulphuric acid is more than twice as potent, and usually in the strength of one part to five hundred of water will render this free from living germs. Sometimes, however, it has to be used still stronger, as it is in a certain extensively advertised nostrum, exposed in the AMERICAN ANALYST some time since, in which, under a fanciful name, it plays the principal part. Alum, lime, and the other chemicals which, by inducing sedimentation of organic and mineral constituents, carry down many of the bacteria in water, do not (as is often believed) insure the annihilation and destruction of organisms present. It is the mechanical action of the film, which the presence of a minute amount of these causes to settle sooner than would otherwise occur upon sand in certain large sand filters, which insures their excellence, and the scarcity of bacteria must here not be attributed to a coarse chemical action. When chemicals are added in sufficient strength to destroy speedily all the bacteria which may be present, the water thus treated cannot be recommended as a beverage.

(To be continued.)

METROPOLITAN PRICES.

HOW THE COST OF FOOD VARIES IN NEW YORK.

For any individual to glean for himself the prices of the necessities as they vary in this city would be a matter of almost absolute impossibility, for different sections of the city have separate schedules of rates for the same articles as radically different as might be found in towns many leagues apart. Various causes operate to produce this. The prices of rents in the various localities, the population of the districts, the amount of competition in the business, all enter into the calculation which regulate the prices charged. Each district in the metropolis forms, as it were, a separate little town in itself, beyond the limits of which resident housekeepers rarely go in search of articles of food. The wife, as a rule, accepts the prevailing prices, and takes it for granted that what she pays for her goods may fairly be assumed to be the general market rate. In this she is frequently in error. Not only do the individual stores in different localities vary in their prices, but what is more singular, the markets in the various sections do likewise. That the public may have some idea of just what the ruling prices are in this city to-day and just in what section the most profitable purchases may be made, the New York Press has made a thorough canvass of the city with the following results. They are worth studying from points even other than economic. The prices sought were those asked in reliable places for articles of food in the lines of meat, eggs and vegetables. The storekeepers were wholly unaware of the object or purpose of the reporters, and the rates given were precisely those at which the goods are being retailed. Each reporter was furnished with the same list of articles to be asked for. It contained sliced ham by pound, whole ham by pound, shoulder of pork, butter, eggs and potatoes. The investigation is interesting by reason of the differences in prices which it exhibits. There is a well-defined gradation on both sides of town until a point about Thirtieth Street is reached, when for some blocks there is a little mountain of advance. Then the scale lowers as you go into Yorkville, and in Harlem the

prices are still a little lower. Washington Heights, perhaps, presents the best illustration of the theory that the wealth of the customer enhances the value of what he desires to eat, for within almost a stone's throw there is an increase of nearly two cents a pound on all meats. Washington Market, perhaps, all in all, makes the lowest average schedule, and the same remark will apply to the stores ranging on the far down-town west side. Rib roasts that may be purchased there at 12 and as low as 10 cents per pound will cost in the fashionable up-town districts from 18 to 22 cents, while the rump steak that satisfies its patrons in the ordinary walks of life at from 12½ to 14 cents per pound tickles the palates of the brown stone front at the modest figure of 18 cents. Sirloin is from 4 to 6 cents dearer as well, while the turkey refuses to sacrifice itself on the spit up-town for less than 5 and in some instances 7 cents more than it would consent to do the same thing for in quarters less fashionable. Midway on the west side, or rather, less than midway, the prices are, it will be noted, just about a medium between those of the down-town and the up-town main provision dealers. Rib roasts form the only exception to this. Whether it be that they are less sought for up-town or are more highly prized in lower Sixth Avenue and the blocks west of it, it is a fact that they sell for 4 cents more than they do a quarter of a mile lower down, and only 2 cents less than in the most fashionable quarters of the city. Jefferson Market preserves a fair average, and Clinton Market, at Canal and Spring, on the North River, is only a shade cheaper. Just at about a point corresponding to this, but on the east side, the prices, somewhat strange to say, are very considerably lower. For instance, over on Avenue C sirloin steak, which rates at from 18 to 20 cents in Jefferson Market, can be purchased for from 12 to 14 cents, while mutton is only 6 cents lower. Leaving the hotel and club and fashionable district so-called, and going nearer the homes of the people in Yorkville, we find a decided inclination to lessen prices in everything. Even sliced ham, which is somewhat more uniform than the other articles, yields to the general feeling, and sells for 2 cents per pound less than it does below Fifty-ninth and above Fourteenth Street. Roast rib is also lower, 1 cent per pound. Going still further up-town into Harlem, we find turkey reigning at an exact average of 15 cents. Rib roasts grow just a little in favor and in price, but rump steaks and sirloins are cheaper than they are anywhere else in the city, except on the far east side well down toward the tenement quarters. People in Harlem pay 4 cents per pound less for very fair sirloin than do the people in Yorkville, and 6 cents per pound less than those who live on the aristocratic Washington Heights and in the centre of the town. A somewhat curious feature on the west, and indeed the same on the east side as well, is that the prices gradually decrease as you go from the central avenues. On the extreme west side the prices range from 1 to 2 cents per pound less on an average than they do nearing Sixth Avenue on the one side and Third Avenue on the other. Fulton Market and Catherine Market are fully up to the average prices paid over the city.

FOOD PRESERVATIVE.—A much better preservative of food than the boric acid, etc., now used for keeping fish should be had in sterilized infusorial earth, in the opinion of Professor P. Wagge, the Norwegian chemist. Enormous deposits of this earth were discovered in Norway last year.

COMBINATION METERS.—The *Electrical World* says that there used to be such a prejudice against gas meters that consumers of electricity did not like to have their electrical meters put anywhere near their gas meters, lest the new gauge might contract bad and lying habits from the old one. The electric meter has a reputation as good as that of the gas measurers is bad. Now an ingenious fellow has turned up with a patent for a combination gas and electrical meter, as accurate in its workings as a pair of jewelers' scales.

DUTIES OF SPRING.—Eat Dandelion Salad and subscribe to the AMERICAN ANALYST.

MEASURING PAIN.

RECORDING THE SPEED OF A RHEUMATIC TWINGE.

The University of Pennsylvania is the pioneer in introducing the mind-measuring system into America. Prof. Cattell recently brought with him from Germany some quite remarkable instruments, principally of his own invention, which are to be hereafter employed in demonstrating his psychological lectures. They perform tasks which materialists have scouted as impossibilities, and strongly tend to prove that psychology, despite all that has been said to the contrary, is an exact science. One of these instruments will calculate to a nicety the traveling speed of an impression. A chronoscope and a voltaic battery are the principal agents in the solution of this intricate problem. By their means registration is made of the exact time that elapses between the occurrence of an act and the sign given by the subject operated upon that he has perceived the act. By a process of subtraction the time is discovered which passes between the moment at which the impression reaches consciousness and the moment when the subject knows that he perceives. In this manner a man's rapidity of perception—his ability to see, taste, smell, hear or feel—may be accurately determined. For the measurement of sound the subject forms a circuit by applying his hands to the two poles of the battery. On hearing a specified noise he instantly breaks the circuit. Immediately the hand of the chronoscope stops short, indicating in thousandths of a second the time that has elapsed between the occurrence of the sound and the breaking of the circuit. On this basis man's perceptive power is calculated. By analogous means the comparative swiftness of sight is measured. Prof. Cattell has ascertained, for instance, that one-tenth of a second suffices for him to perceive a color, one-eighth of a second is necessary for the perception of a letter, and one-seventh of a second for a word. The strength of a person's memory is determined by a complicated machine which presents to the eye at intervals of a second, flashes of light of varying degrees of intensity. The more subtle is a man's power of recognition, the more readily he distinguishes one light spot from another, and the longer he retains his impressions. In this way the mind's concentration and retentiveness are measured in fractions of a second. By means of the gravity chronometer the comparative ease or difficulty with which letters or words may be perceived is demonstrated. In a sliding screen moved by electricity a slit five inches wide is inserted, behind which an object is exposed to view for an infinitesimal space of time. In a series of experiments with the letters of the alphabet the time of exposure was one-thousandth of a second. Out of 270 trials W was seen 241 times, while E appeared seen but 63 times. Of other capital letters Z, M, D and H ranked next in succession after in the quickness with which they were perceived, while V, F, U and J were observed only with great difficulty. Of the small letters d is the most easily recognized, and s least easily, the former being perceived three times as often as the latter. If the several colors are exposed to view in like manner for a fraction of a second, orange and yellow will be clearly perceived. Blue, red and green follow in the order named, violet being the least easily recognized and requiring two or three times as long exposure as the bright colors. This device is of great value in measuring the range or complexity of the mind.

DRESS BAGS.—Ladies with choice dresses now order a bag with each dress, just as a gentleman orders a pasteboard box with his new high hat. These bags are made of common muslin or other lining material, and close at the top with a shirr string. The ends of the shirr string are run through loops in the belt of the dress skirt and waist, and when the bag is closed it can be hung on a nail in a closet secure from dust and moth and every other evil agency except thieves and pretty servant girls with a penchant for wearing madame's clothes.

WALL PAPER DANGERS.

A HYGIENIC SUBJECT TOO OFTEN NEGLECTED.

The *Sanitary News* calls attention to the unhealthfulness of the customary practice of dealing with the walls of our houses. Allusion is made to the outcry of a few years ago against arsenical wall papers, and it is asserted that other conditions of our walls and ceilings are far more deadly. People are urged not to paper their walls, but if they will do so to remove the old coats of paper and paste before applying new coats. It is a well known fact that flour paste will soon mold; that it is a ready absorbent of moisture and disease germs; also that paper is a very ready absorbent. They may not be aware, however, that the coloring and bronzes, which are pulverized metals, brasses, etc., are only temporarily held upon the face of the paper with animal matter (glue) that soon decays, and glue is the greatest absorbent of moisture, and the natural culture ground for the germs, and if these little pests get sufficient heat while there they will flourish, and the rooms are sometimes very warm above the lines of the doors and windows with a moderate fire; and where repeated coats of this paste, paper and glue are applied, from which outdoor air with its purifying effects are excluded, by the respirating pores being sealed or strangled, the danger is much greater. The glue soon rots sufficiently to allow the air or any friction to remove small particles to which these germs have attached themselves to float about the room unseen, until they lodge in the system of some unsuspecting victim, whose physical condition is such that they take effect; then they still have the little particles of fertilizer with them to help give them a start on their deadly mission. The practice of calceining and painting walls is also condemned, although it is preferable to paper from a sanitary point of view. By any methods in use the pores of the walls are closed, and the purifying process of the air passing through and through them is cut off. By this showing it would appear that undecorated walls, unsightly as they are, are the only healthy ones to live within.

MILK NATURAL AND CONDENSED.

A FEW EXCERPTS FROM DR. E. H. BARTLEY'S REPORT TO THE BROOKLYN BOARD OF HEALTH.

The milk of feverish animals is always abnormal in composition, and should not be given to young children. In general, this change in composition consists in an increase in the albuminoid matters, and a decrease of the sugar and fat. The milk of cows suffering with pleuro-pneumonia should be carefully excluded during the acute febrile stage, for the above reason only. The same remark applies to all non-contagious diseases. Tuberculosis, on the other hand, may render the milk infectious, especially when the udder becomes involved. The evidence upon this point grows stronger year by year, and makes this disease among milch cows a matter of great importance to sanitarians. As chemical analysis cannot detect the changes in the milk due to disease of the animals, when mixed with the milk of healthy cows, it becomes a matter of necessity that the health of the cows in milk-producing regions should be carefully watched, and the milk of all diseased animals carefully excluded from the market.

CONDENSED MILKS.

Condensed milk, in recent years, has become a staple article of food. There is undoubtedly an important place filled by this popular food. When first introduced, it was felt that a long needed reform in milk supply had come. It soon met with a ready sale, and then competition began to spring up. Physicians had begun to recommend it as a food for infants, in place of the more or less variable cows' milk, especially in large cities, because of its supposed uniformity, and because experience had shown it to be a good substitute for the above. From certain clinical experiences, I have for some time been somewhat lukewarm in its praise as a food for in-

fants. I began to suspect that it was not always uniform in quality and purity, and, therefore, requested the chemists of the Department to make an analysis of cans bought by myself in the market. The brands examined were the "Rose" brand, the "Crown" brand, the "American Swiss" brand, "Canfield's Condensed Milk," "Borden's" from wagon, and the "Eagle" brand. The following is the result of the analyses:

No.	NAME.	SPECIFIC GRAVITY.	SP. GR. OF MIXTURE.	FAT.	SUGAR.			WATER.	ASH.	ALBUMINOIDS BY DIFFERENCE.
					MILK.	CANE.	TOTAL.			
1	S. W. Canfield	1.281	1.0740	6.30	9.87	38.07	47.94	27.85	1.86	16.32
2	{ Eagle Brand, N. Y. Condensed Milk Co.	1.277	1.0742	5.35	10.89	46.49	57.38	28.27	1.87	7.68
3	{ Rose Brand, N. Y. Condensed Milk Co.	1.287	1.0756	6.48	8.29	45.49	53.78	21.53	1.81	16.40
4	{ Crown Brand, N. Y. Condensed Milk Co.	1.277	1.0728	5.48	7.54	45.76	53.30	19.97	1.80	17.96
5	{ Borden's (from wagon)	1.145	1.0324	8.23	.....	.....	.....	55.66	2.35	.....
6	American Swiss	1.289	1.0761	6.35	8.47	37.37	45.84	22.54	1.79	23.48

In reviewing the above analyses of condensed milks, we will consider but two points: first, as to whether the condensation had been carried to the point claimed; and, second, as to whether a portion of the cream had been removed from the milk before condensation. It is claimed by the condensed milk companies, that the milk is evaporated to one-fourth the original volume; or, that by the addition of three parts, by volume, of water to one of the milk, the original uncondensed milk is obtained. If we divide each of the ingredients, except the water, in the above table by four, we have the result expressed as follows:

NUMBER.	1	2	3	4	5	6
Total Solids.	8.51	6.31	8.24	8.57	....	10.02
Fat.....	1.58	1.34	1.62	1.37	2.06	1.59
Sugar.....	2.47	2.72	2.07	1.88	....	2.12
Casein.....	4.08	1.92	4.10	4.49	....	5.87
Ash.....	.465	.47	.45	.45	.59	.45

The total solids in whole milk should be not less than

twelve per cent., while these vary from 6.31 to 10.02 per cent. The fat in whole milk should be between 3.2 and 4 per cent., the sugar about 4.5 per cent., the casein about 4.2 per cent., and the ash from 0.6 to 0.7 per cent. It is very evident, at a glance, that none of these milks, when diluted, according to directions, give anything like normal cows' milk. None of them seem to have been condensed to the degree claimed.

As to whether the milk had been partly skimmed. Koenig (*Nahrung und Genussmittel*, page 243) gives the general relation of the fat to the nitrogenous matter, in natural milk, as 100 to 100 to 110. As this relation is not disturbed in condensed milk, he recommends it as a means of determining whether or not a portion of the cream has been abstracted from the milk. Applying this rule to the figures in these tables, it would seem that, with the exception of No. 2, a portion of the cream had been removed before condensing. The same conclusion must be reached by an inspection of the second table above given.

To sum up then, the results of our analyses of the above condensed milks, we must conclude that a large proportion of them are not condensed to one-fourth the original volume of the milk. A considerable number of them are prepared from partially skimmed milk, as shown by the relation between the fat and the albuminoids. No process of dilution in these last cases, can produce an accurate imitation even of cows' milk, much less a resemblance to mothers' milk. They are, therefore, not to be recommended as a proper food for infants, because of the great excess of casein over the fat. Only one is here mentioned which appears not to have been skimmed. If further inquiry sustains the conclusions drawn by this limited number of analyses, the health of children should be protected from the harm likely to be done by such mixtures. If it is a common practice for manufacturers of the cheaper brands of condensed milks, to partially skim before condensing, it should be subjected to the same regulation that other skimmed milk is.

CHEAP BEEF.

EXPENSIVE RESULTS OF THE PROPOSED RESTRICTIVE LEGISLATION.

Since the passage of the meat inspection or anti-dressed beef by the Minnesota Legislature, the price of meat has advanced twenty-five per cent. at several points in the State. The Albany law-makers should think twice before bringing about such a condition of things in the Empire State.—*Utica Observer*.

In Minnesota, effect has simply followed cause, just as it always does there and elsewhere. It has been repeatedly pointed out in these columns that the passage of what is known as the dressed beef bill would enhance the cost of meat, and therefore be a curse to consumers. The advocate who contends that the circumscription of competition does not tend toward higher prices is either ignorant or dishonest. It is one of the inflexible laws of trade. Many pernicious bills have been brought to the attention of the present legislature, but few, if any, are more mischievous and objectionable than this one. The fact that the passage of the dressed meat bill would largely increase the price of meat is perhaps the most effective argument that can be employed against it, but there is a yet graver and more far-reaching objection, which we have previously urged, but is worthy of reiteration. The effect of legislation of this character is to stimulate the spirit of sectionalism and make the union weak and dissoluble. Interstate tariffs cannot be imposed without fracturing the bonds of fraternity. They would belie our boasted national unity, and be corroborative of the old states rights doctrine, the holders of which were stigmatized as Copperheads and Secessionists. We do not know that this feature of the bill has been presented at Albany, but it is perfectly patent that so soon as the borders of our commonwealths are lined with custom officers the disintegration of the republic will have begun. Political

divisions will follow commercial divisions, trade can no longer seek its normal channels, and in the end such legislation would prove destructive to the common interests of the country. An ex-Assemblyman expresses the opinion that the bill was conceived for the corrupt purpose of extorting a corruption fund from the great millionaire dealers of the West, in other words, that some of the members friendly to the bill are anxious to have certain tangible arguments employed to induce them to vote against it. Whether this is true or not is conjecturable. It cannot be true of any honest legislator. But his conviction justifies the suspicion that blackmailing bills are not an unknown feature of modern legislative methods. It is enough to know, first, that the dressed beef bill, if it were to become a law, would increase the cost of living and be an additional tax upon every family in the State; and, secondly, that it is *wrong in principle*. It ought to be buried at the very bottom of the many bad bills which deserve to find their way into the same dishonored grave.—*Troy Press*.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

May.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant, pigeon, chicken, duck, turkey, goose, snipe,

FISH.—Anchovy, bass, catfish, cod, eels, clams, flounder, halibut, herring, lobster, mackerel, mussels, perch, porgie, rock-fish, salmon, shad, shrimp, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Artichokes, beans, carrots, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

TOMATO SOUP.—Make a good clear stock the day beforehand. Take two quarts of the broth and a dozen large, full-ripe tomatoes, a bunch of herbs, and a quarter of a pound of rice. Scald the tomatoes and peel them first before introducing them. Let all come to the boil, and skim frequently. Reduce to about one-half. This makes rather thick soup. If a thinner soup is preferred, cook the tomatoes first, just as if for stewing. Cull out the rice, and add the stewed tomatoes to the broth an hour before serving, letting the soup simmer gently.

FRIZZLED MEAT.—Take meat that is too tough to boil, put it where it will freeze as hard as possible, then, with knife or machine, shave in small pieces; have a hot griddle or frying-pan, grease and put on the meat, turn quickly, then salt, pepper and serve with gravy.

DEVILED LOBSTER.—Boil about six pounds of lobster, and when cold pick it into fine shreds; to one-half pint of cream add one-half teaspoonful of ground mustard, a saltspoonful of cayenne pepper, saltspoonful of ground mustard, one-quarter pound of butter; boil this dressing, and then stir in the yolks of two raw eggs (beaten) until it begins to thicken, throw in the lobster and stir it until it is warmed through; put it back into the opened lobster shells, and sprinkle bread-crumbs and little pieces of butter over the top; brown in the oven; serve with lettuce leaves.

TOMATO TOAST.—Take fresh or canned tomato, stew and season with salt, pepper and cream, with a little flour stirred to a paste in a small portion of the cream

before adding to the rest, then toast slices of bread, spread them with butter, and spread on the tomato while hot and serve immediately.

VEGETABLE SALAD.—Chop up three good tomatoes, also a freshly peeled cucumber, and a white Spanish onion. Put them in a dish in alternate layers, with a sprinkle of pepper and salt on each layer. Pour some oil and vinegar over, and set it away in a cool place for an hour. Cover with some freshly grated bread crumbs, and serve at once.

RICE CHEESECAKES.—Mix $\frac{1}{4}$ lb. of ground rice with one pint of milk, stir over the fire till it becomes a paste, but it must not boil. Now add 4 ounces of butter, stirring till the butter is mixed. Next beat three eggs with $\frac{1}{4}$ lb. of sifted sugar and a grate of nutmeg. Mix well together, then add 4 ounces of currants, and a few drops of essence of orange. Line some patty-pans with puff-paste, dust a little sugar over them and bake.

LEMON CAKE.—One cupful of butter, two cupfuls of powdered sugar, five eggs, one-half a cupful of milk, four cupfuls of flour, three teaspoonfuls of Horsford's baking powder, the grated rind and half the juice of a lemon. Mix the butter and sugar to a smooth cream, then add the eggs and milk, then the lemon, and then the flour and baking powder, and bake in one loaf, one hour.

CHOCOLATE SOUFFLEE.—A quarter of a pound of grated vanilla chocolate, a quarter of a pound of almonds blanched and pounded, six ounces of sifted sugar, and the yolks of eight eggs must be stirred together half an hour. Whisk the egg-whites to snow, and stir them gently in with the rest. Butter a mould well, strew it with grated bread, put in the mass, and bake it an hour.

CHEAP CATERING.

A UNIQUE CO-OPERATIVE ENTERPRISE IN LIVERPOOL.

An instance of the principle of co-operation successfully applied is furnished by the history of the Liverpool Clerks' Cafe Company. This company was formed in the year 1884 for the purpose of catering for the wants chiefly of clerks who by exigencies of business was compelled to take the bulk of their meals in the city. The existing restaurants and dining rooms were either expensive or unsatisfactory in style of service and of food provided. The company aimed at combining the superiorities of the one with the cheapness of the other. At the outset of its career it had more than ordinary difficulties to contend against in the shape of prejudice and unfriendliness of the tradesmen of the town, and being managed entirely by a directorate selected from amongst the clerks themselves, certain drawbacks from inexperience were inevitable. That it has successfully surmounted all these is proof of the satisfaction which it affords and of the business-like lines on which it has been conducted. The company started with one cafe as a simple luncheon room, and has since gradually widened its operations to such an extent that it now practically controls the lunching, dining and teating of the commercial community in Liverpool. Its establishments, of which it has now seven in various parts of the city, are commodious and well-appointed, and the food provided is the best obtainable. Its effect has been to make Liverpool the cheapest and best of English cities in which a clerk can live. Formed primarily for the benefit of clerks, it now counts commercial men of every degree amongst its regular customers, and further than this it has caused a general reduction of tariff throughout the business parts of the city in other restaurants. Comparing what it costs clerks in city expenses five or six years ago with what they can now live at in similar style, it has been as good as an all-round increase of income to them. Yet it is

not a philanthropic enterprise by any means. From the very first it has been a sound business success. Its yearly dividend has been 20 per cent. on its paid-up capital; it has written off for depreciation over 20 per cent. on an average yearly, and has accumulated a reserve fund of some £1,500. Some idea of how close the margin between profit and loss is drawn is given by the investigation of one year's working, which revealed the fact that the net profit on each meal served during the year was but a halfpenny (one cent). This will also give some idea of the number of meals served to aggregate such results as this company has attained. The company was first registered with a capital of £5,000; the first issue was of 2,500 £1 shares. Its registered capital is now £20,000, of which 10,000 £1 shares have been issued. On these only 10s per share has been called in, but the market value stands at 30s to 32s 6d per share, or a premium of over 200 per cent. One secret of the success of this company is the manner in which shares have been allotted. At the outset the directors were able to fully allot their first issue and yet give to no single applicant more than five shares, preference being given at the same time to those most likely to be regular customers. A clientele was thus at once created. In succeeding issues of capital the same rule has been followed, so that each new room opened has in its vicinity a number of the company's shareholders largely interested in its success. Each room is under charge of a manageress (the whole of the working staff being of the gentler sex), and supervised by a visiting committee of the directors, the board being subdivided into committees for that purpose. This insures freedom from irregularities and constant state of efficiency which has made the establishments of the company so popular in Liverpool. An idea of the cheapness with which food is served, all being of excellent quality and ample portions being given, can be obtained from the following prices: All kinds of soup 2d per plate; fish 6d; roast sirloin beef, 8d; roast mutton 8d; steak pie, 8d; mutton haricot, 8d; roast veal, 8d; pork and apple sauce, 8d, and various other joints, 8d; chops and steaks, 8d; cold meats, 6d; ample variety of vegetables, 1d and 2d; pies and puddings, 3d; bread and butter, 2d.

NOTES ON IODIDE OF POTASSIUM.

The perfect impunity with which iodide of potassium has been administered by some of the most eminent physicians of Europe and America is worthy of note. Dr. John O'Reilly, Drs. Buinestead and H. C. Wood report having continued extremely large doses for a considerable length of time, in some marked cases, without having experienced more than temporary ill effects, which at once yielded when the medicine was suspended for a short time only. Messrs. Guillot and Melseus gave it to advantage in doses of from a drachm and a half daily, and continued it for several weeks in cases of lead poisoning and mercurialism. They believe that it acts by making the poisonous metals, which have become fixed in the system, soluble, and carrying them off in the secretions. In one or two cases where, after the use of iodide of potassium, salivation took place, it was clearly proven not to be the primary effect, but the secondary effect, through the releasing of the mercury already in the system. Dr. Geo. Balfour, of Edinburgh, was very enthusiastic in his reports on the use of iodide of potassium, ascribing successes to it which he believes he could not have obtained in any other way. He even used it in affections of the mucous passages, getting the benefit directly through its excretions through those membranes. Dr. Buchanan, of Glasgow, assures the profession that he has given it in doses of half an ounce. Iodine, the active agent in iodide of potassium, was first employed as a medicine in 1819 by Dr. Coindet, Sr., of Geneva. Dr. John C. Dalton, of New York, used it extensively. Drs. Lebert, Manson, Lugol, Boinet, Berthe, Lepage, Hutet, Brainerd, Fairthorne and H. W. Fuller all unite in speaking of the

use of iodine and iodide of potassium in the very highest terms, and all deny any injurious effects whatever. Taken in connection with a well-made extract of choice sarsaparilla, the efficacy of iodide of potassium seems to be very much increased, while any injurious effects whatever, if such are possible, are counteracted both from the nature of the sarsaparilla, which has a tendency to carry off any excess of the iodide of potassium with the other effete matter, and from the fact that a very much smaller dose of the iodide is necessary in that way. One peculiar fact may be stated in this connection. Although the use of sarsaparilla has been known since the middle of the sixteenth century, after a time it fell into disrepute, because it was not generally known how to select the best root and how to extract its virtues until it was re-introduced about a century ago by Sir William Fordyce. Now, again, owing to so much that is worthless going by the name of "sarsaparilla," it threatens to become unpopular. All this is obviated by taking the standard preparation of Dr. J. C. Ayer & Co., of Lowell, Mass, who use exclusively the Honduras sarsaparilla—the variety most rich in medicinal properties—and who have steadily maintained the excellence of their medicine for nearly fifty years.

UTILIZING ROOTS.—The network formed by the roots of the poppy has been found admirable for keeping railway embankments in place. It is extensively sown in France for this purpose.

GLASS BONNETS.—A Venetian glass manufacturer is said to be making and selling bonnets by the thousand. The glass cloth of which they are made has the same shimmer brilliancy of color as silk, and is impervious to water.

EAST AND WEST.—Ohio has 4,000,000 people, with \$14,000,000 in savings-banks. Maine has 660,000 people, with \$41,000,000 in savings banks. Ohio has \$3.33 to each individual, Maine has \$62 to each individual, in savings banks.

FEMALE DOCTORS IN RUSSIA.—The *St. Petersburg Gazette* believes that the question of lady doctors in Russia has been definitely settled in an affirmative sense, with the stipulation that ladies shall only attend on adults of their own sex, and on children of both sexes.

ELECTRIC POWER.—The installation of the electric motor as a means for stationary power is becoming more noticeable each year, and estimates carefully made rate the number of those in use at the present time for driving machinery in the United States at between 6,500 and 7,000.

STEEL HOOPS FOR BARRELS.—A corrugated steel hoop has been invented, which is said to be elastic and firm, hugging a package tightly. Four steel hoops will take the place of ten wooden hoops on a flour barrel. They are cheaply produced by the aid of electricity, a hoop being welded in two seconds. They are made at Worcester, Mass.

HIGHWAY ROBBERY.—Drug clerk: "I filled a prescription for a stranger last night for a dollar and ten cents, and this morning I find the dollar is a counterfeit."

Proprietor: "That's highway robbery again. Well, never mind, if the ten cent piece is good, we still make four cents on the sale."

THE ELECTRIC AGE.—Prof. Elisha Gray remarks that electrical science has made a greater advance in the last twenty years than in all the 6,000 historic years preceding. More is discovered in one day now than in a thousand years of the middle ages. We find all sorts of work for electricity to do. We make it carry our messages, drive our engine, ring our door bell, and scare the burglar; we take it as a medicine, light our gas with it, see by it, hear from it, talk with it, and now we are beginning to teach it to write.

SAWDUST PAPER.—An important experiment has been tried successfully at Ottawa, Ont. A mill has been established which makes paper pulp out of sawdust. It is now using all the product of one mill. The paper made wholly from sawdust is said to form an admirable sheathing that is fit for building after being

tarred and dried. A better quality is made by using one-fourth waste paper. The plant cost \$15,000, and consists of American machinery, with the exception of the grinders. The mill has a capacity for converting about 12,000 tons of sawdust into pulp annually.

ANCIENT IRON.—The oldest pieces of wrought iron now known are probably the sickle blade found by Belzoni under the base of a sphinx in Karnac, near Thebes; the blade found by Colonel Vyse, embedded in the masonry of the great pyramid; the portion of a cross-cut saw exhumed at Nimrod by Mr. Layard—all of which are now in the British Museum. A wrought bar of Damascus steel was presented by King Porus to Alexander the Great, and the razor steel of China for many centuries has surpassed all European steel in temper and durability of edge. The Hindoos appear to have made wrought iron directly from the ore, without passing it through the furnace, from time immemorial, and elaborately wrought masses are still found in India, which date from the early centuries of the Christian era.

NIGHT AIR.—An extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without and foul air from within. Most people prefer the latter—an unaccountable choice. What will they say if it is proved to be true that fully one-half of all the diseases we suffer from are occasioned by people sleeping with their windows shut? An open window, most nights in the year, can never hurt any one. In great cities night air is often the best and purest to be had in twenty-four hours. I could better understand shutting the windows in town during the day than during the night, for the sake of the sick. The absence of smoke, the quiet, all tend to make night the best time for airing the patient. One of our highest medical authorities on consumption and climate has told me that the air of London is never so good as after ten o'clock at night. Always air your room, then, from the outside air, if possible. Windows are made to open, doors are made to shut—a truth which seems extremely difficult of apprehension. Every room must be aired from without, every passage from within.—*Sanitary World.*

BUSINESS NOTES.

CHRONIC STARVATION.

Upon whatever other points they may differ, authorities on dietetics agree that nitrogen is the most essential of all foods, and that a certain amount should be taken regularly. Diminution of the quantity of food, whether from inability to procure it, or a disinclination for it, generally means decrease or absence of nitrogen. That this leads to dire results is a well-established fact. Graily Hewitt, in an address on "Chronic Starvation and Delicate Females," before the British Medical Association, said: "For the last ten years or more I have carefully inquired into the history of patients suffering with uterine and ovarian disease, or some affection incidental to child-bed, and I have found a continuous insufficiency of food, especially the nitrogenous, to have existed almost universally, so that I have naturally come to regard this chronic starvation as an important factor in disease." The serious trouble arising from insufficient nourishment are also shown in a marked manner in the case of delicate females during gestation, a large proportion of whom are so enfeebled by the constantly-recurring paroxysms of vomiting and the consequent diminution of food assimilation, that when the period of parturition arrives they are so reduced in strength as to be peculiarly susceptible to the attacks of disease incident to child-birth, and the offspring is ushered into the world puny and feeble, and especially liable to a complication of physical evils solely attributable to its starved and anemic condition. Golden's Liquid Beef Tonic contains precisely the elements indicated by Dr. Hewitt as being so essential, combined with soluble citrate of iron, cinchona and gentian, forming at once a palatable nutriment and reliable tonic, and its range of usefulness embraces all cases of debility of whatever origin. It has been in use fifteen years, and those who have used it most are most emphatic in its praise.—*Mass. Medical Journal.*

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Humphrey & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

Descriptive Pamphlet Free.

RUMFORD CHEMICAL WORKS,
PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION:—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

NEAR THE L. ROAD.

There can be no pleasanter place to stop in New York than the well known Sturtevant House, 29th St. and Broadway. It is centrally located and is conducted on both the American and European plans at moderate prices. — *Times Democrat*.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.
Use Woodbury's Facial Soap. By Mail, 50 cts.

LEA & PERRINS'

SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

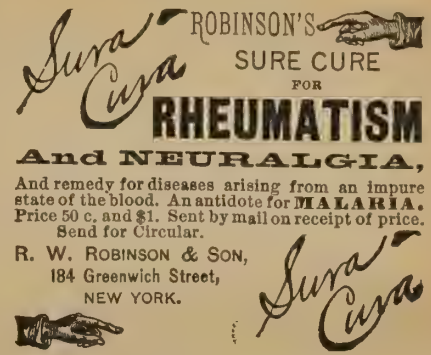
JOHN DUNCAN'S SONS, NEW YORK.

THE LABORATORY.

To Inventors, Manufacturers and Applicants for Patents

The AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable.

Address, AMERICAN ANALYST,
19 Park Place, N. Y.



C. O. P.

Cotton Seed Lard

ANTI-DYSPEPTIC.

Warranted free from Hog Fat.

PURE, WHOLESOME, ECONOMICAL.

For sale by all Grocers. Send for Illustrated Pamphlet, entitled

"SOME THINGS ABOUT LARD."

BRANCH OF

THE COTTON OIL PRODUCT CO.,

19 West 42d St., New York.

Subscriptions \$1 per year. Now is the time to subscribe.

GOOD ADVERTISING AGENT WANTED,

Address, ANALYST PUBLISHING CO., 19 Park Place, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the (Original and Genuine. Beware of Bogus Worcestershire Sauces.
SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.
By James Keiller & Son, Dundee.
SCOTCH BISCUITS, Albert, Water, and Oat Cake,
By Robert Middlemass & Son, Edinburgh.
RACAHOUT des Arabes, by De Langrenier, Paris.
BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.
Sold by all first-class Grocers.
JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 35
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,
19 Park Place, New York.

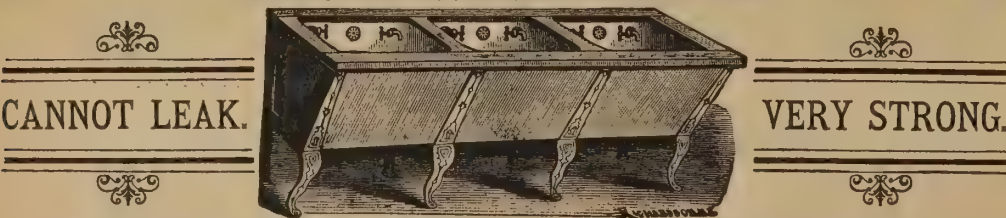
STEWART CERAMIC CO.,

312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).



CANNOT LEAK.

VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top,
SMOOTH GLAZED SURFACES. ALWAYS CLEAN.
The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.
SOLID WHITE CROCKERY SINKS
Made of same material as the Tubs and fully as strong.
Send for Illustrations and Price Lists. Send for Illustrations and Price Lists.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,
UNION STOCK YARDS,
CHICAGO, ILLS.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT A SINGLE ADDITION.

MALTED MILK does not have to be cooked.
MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.
MALTED MILK will not spoil in hot weather.
MALTED MILK is always ready for immediate use night or day, when traveling or at home.
MALTED MILK does away with the danger of using sour or impure milk.
MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.
Ask your physician his opinion of MALTED MILK, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00
Extra Large Glass Jars for hospital and family use, ... \$3.75
These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.
RACINE, WISCONSIN, U. S. A.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

CAST COPPER.—Cast copper weighs on an average 544 pounds per cubic foot.

SECRET WRITING.—A device for secret writing by means of the type-writer is mentioned by the *Paper World* as a recent invention. It requires two type-writers similarly adjusted. They are so constructed that the type can be shifted from their normal position, so that the operator, striking the key in the usual way, really writes other letters than those in his copy, forming a cipher copy. The receiver adjusts his machine in an opposite direction and writes from the cipher copy, and his machine records the letter of the original copy. The principle is very simple, says the *Mechanical News*, and it at once suggests the possibility of applying the principle of the combination lock to such a contrivance for all type-writers, so that each owner of a machine can set it to any combination, which only he and his correspondent should know. This must be feasible, and, if the new invention is of any use at all, its usefulness would be much increased by such a plan.

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In *dyspepsia* and *loss of appetite* its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis* and other wasting diseases, *Nervous Prostration*, *Constipation*, *Inanition*, *Malnutrition*, *Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.
Acidi Phosphorici aa, grains, ss.
Antipyrin.
Ext. Apii. Grav. dulc. (Celery), aa grains, j.
Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in *Headaches*, *Neuralgia*, *Insomnia*, *Neurasthenia* and *general Nervous Irritability*, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	WITH PUBLISH- ER'S PRICE.	DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar-		
cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical		
Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE VIBURNUM COMPOUND OF DR. HAYDEN, THE STANDARD IN FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. **Five Thousand Physicians** have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS
Loading Numbers 14,048,128
130, 135,
333, 161.

—For sale by all stationers.—
THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
—WORK— CAMDEN, N. J. —

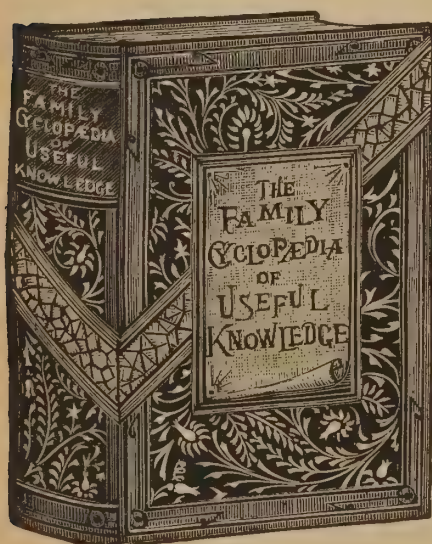


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A. sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. **WOOLRICH & CO., Palmer, Mass.**

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,
—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

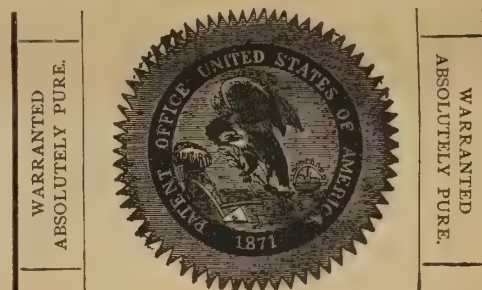
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

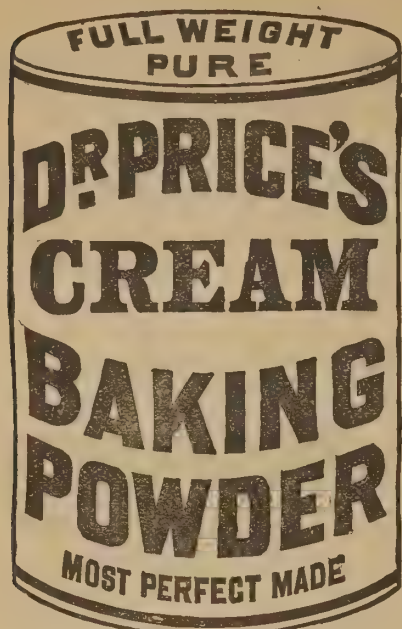
361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

FAC SIMILE OF THE LABEL OF



THE BEST SCOURING AND CLEANING SOAP
IN THE WORLD.

Costs as much to manufacture as Sapolio, yet sells at about half the price (\$2.75 per box of 72 cakes). Can be retailed for as much with equal or better value to the consumer, although it is generally sold at 5 cents a cake. Cut this out and ask your Jobber to send you a box of *Pride of the Kitchen*. It is worth trying.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans.
PRICE BAKING POWDER CO.
NEW YORK. CHICAGO, ST. LOUIS.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, an which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already supplied) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

Soothe the Baby,

not with narcotics, but with nourishment that will give a healthy growth, and which will be readily assimilated by the little ones.

RIDGE'S FOOD

will do it every time. Try it. WOOLRICH & Co. on label.

STERLING BAKING POWDER



MADE FROM
99¹/₂% PURE CREAM TARTAR.

This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.

STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

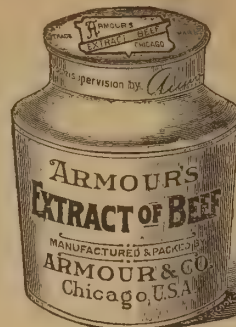
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed by the Medical Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 21.

NEW YORK, THURSDAY, MAY 23, 1889.

WHOLE No. 117.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O. Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

American Lard.....	244
Book Reviews.....	245
City Perils.....	244
Currants, Imported.....	246
Diet for Dyspepsia.....	244
Domestic Dietetics.....	246
Editorial.....	241
Clairvoyant Malpractice; French "Vin Ordinaire;"	
Ice Prospects; Western Timber; Progressive Legis-	
lation; Good Cheap Beef; To Test the Law.	
Egg Lore.....	245
Electric Dentistry.....	247
Fifty Years of Progress.....	246
Filtering Drinking Water.—Continued.....	242
Maxims of Brillat-Savarin.....	246
Sewed Shoes.....	246

CLAIRVOYANT MALPRACTICE.

A recent action at law, in which a so-called clairvoyant physician was the defendant, possesses special interest from the circumstance that it is the first case of the kind that has reached adjudication in the courts. The parties reside in Wisconsin, and the plaintiff brought suit for malpractice for the improper treatment of his son. The testimony showed that the clairvoyant's treatment consisted in going voluntarily into an alleged trance condition, and while in such condition, giving a diagnosis of the case and a prescription for the ailment. He did not make any personal examination, and did not endeavor to ascertain the past or present condition of the patient; and, indeed, he did not profess to have been educated in the science of medicine. The answer to the charge was that the clairvoyant employed the usual methods of his class, and could not, therefore, be liable for malpractice, as it was understood how he treated his

patients. The judge was asked to charge the jury as follows: "If the defendant was a clairvoyant physician, and professed and held himself out to be such, and the plaintiff and his parents knew it, and at the time he was called to treat the plaintiff both parties understood and expected that he would treat him according to the approved practice of clairvoyant physicians, and he did so treat him, and in strict accordance with the clairvoyant system of practice, and with the ordinary skill and knowledge of that system, then the plaintiff cannot recover, and your verdict must be for the defendant." The judge declined to make such a charge, but was willing to direct the jury by making the last clause read, "with the ordinary skill and knowledge of physicians in good standing, practising in that vicinity, then the plaintiff cannot recover, and your verdict must be for the defendant." This ruling was not satisfactory to the clairvoyant, but was affirmed on appeal, as was also the verdict adverse to him. The court held that it was not good law for any person to claim immunity against a charge of malpractice simply because he practiced a peculiar kind of medicine. The physician must have reasonable knowledge of his profession and have ordinary skill. If a person goes into a trance, and then prescribes without any personal examination of the patient, he does so at his own risk. This view will be regarded as eminently sound by the great mass of the community who do not practice medicine but are practiced upon.

FRENCH "VIN ORDINAIRE."

"I know ———'s wines are good, for they are genuinely imported. I'm sure of that, for I have seen the invoices and the custom house marks on the packages." There are simple-minded persons, generally of the sort who say "doncherno," and pronounce can't "cawnt," who are capable of saying that sort of thing. In fact, it is a common argument among the idiots who consider it "bad form" to approve of anything American for which they may be able to find an imported substitute. They revile American wines simply because they are American, and envy the French for their possession of wines which must necessarily be pure and excellent because they are French. The following little story, recently brought to light by proceedings in a French court, will possibly be something of a shock to those pretentious and unpatriotic fools, but may serve as a suggestive warning to sensible but indifferent persons who might, without such a revelation, fancy that the vaunters of imported wines had some intelligent reason for their loudly expressed preference. A farmer in Normandy, seeing a wine advertised by a firm in Bordeaux, wrote for a couple of casks of it, and forwarded the money. A fortnight afterwards it arrived at the station, and he sent his carter to bring it home. The carter brought two casks, but, to the farmer's astonishment, only one cask was full; the other was empty. An examination of the cask showed that it had not been tampered with, and there was no trace of leakage. Evidently an empty cask had been

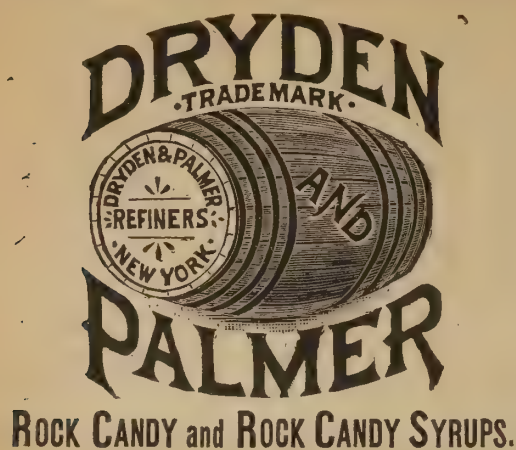
sent by mistake. The farmer at once wrote to the Bordeaux wine merchant, complaining of the carelessness. In due course of time he received the following reply: "Dear Sir: I am sorry for the mistake made by my man, but you can easily rectify it. If you will fill the empty cask with water and leave it for a fortnight, you will find the wine all right. The ingredients are at the bottom of the cask, but my man foolishly omitted to add the water. Waiting your further orders, I am, sir, yours, etc." The "further orders" he got were to appear in court and show cause why he should not refund to the farmer the price of the two casks of "falsified" wine. The case has not yet reached a determination. How much of that sort of French "vin ordinaire" is served at restaurant tables in New York?

ICE PROSPECTS FOR THE SUMMER.

Carefully prepared reports of the ice crop and of the quantities stored show that there need be no fears of a famine. But the visible supply is, in consequence of the scant yield, comparatively small, as a rule, and the quality in many cases is inferior, so higher prices are apparently unavoidable. In this part of the country the advance on last year's scale is from twenty-five to thirty-three per cent. The conditions vary greatly throughout the country, there being reported some highly-favored spots (looking at them with the summer in mind), and others where the outlook is not comforting. The estimate is that there is enough to go around with rigid economy, but that some of it will have to be carried around from these places where there is enough and to spare to those places where there is small store. There is some talk of importations from Norway, and much hope that the summer will be cool. Nothing is said about resorting to artificial congelation. Some years ago the story ran that ice had been produced in several Southern cities by various evaporating processes at less than the cost of importation from the North; but that may have been only a part of the advertisement of a patent.

WESTERN TIMBER.

The *Timberman* does not seem alarmed at the prospect of an early destruction of our timber supply. It asserts that Puget Sound has 1,800 miles of shore line, and all along this line, miles and miles farther than the eye can reach, is one vast and almost unbroken forest of enormous trees. The forests are so vast that, although the sawmills have been ripping 500,000,000 feet of lumber out of them every year for the past ten years, the spaces made by those inroads seem no more than garden patches. An official estimate places the amount of standing timber in that area at 500,000,000,000 feet, or a thousand years' supply, even at the enormous rate the timber is now being felled and sawed. The editor adds that the timber belt of Washington Territory covers an area equal to that of the States of Vermont, Massachusetts, Connecticut and New Hampshire.



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

PROGRESSIVE LEGISLATION.

The Michigan Legislature has shown itself, in two recent instances, in full accord with the higher tendencies of the period. On May 7th the Senate passed a bill prohibiting the sale of tobacco in any form to minors under 17 years of age, without a written order from their parents or guardians. On the 9th inst. the same body made short work of the House-meat Inspection bill, by a vote of 19 to 10. When the vote was announced, it was reconsidered and indefinitely postponed for the purpose of killing the bill beyond any hope of recall. The same programme was carried out with Senator Colgrove's bill, which was identical with the House measure. This puts an end to the hope of any inspection legislation at the hands of the present Legislature. Good for Michigan. The schemers have been foiled in nearly every instance.

INSISTING ON GOOD, CHEAP BEEF.

On the final day of its sitting, May 15th, the Assembly of New York State rejected the Beef Inspection bill by a vote of 80 to 28. This action of the New York Legislature had been forecast in these columns. The ground of the project's repudiation was its manifest unconstitutionality. It was a thinly-disguised attempt to discriminate against Western meat in Eastern markets, and was as clearly in violation of constitutional provisions as it was opposed to public interests. The vote is emphatic enough to show that this form of pernicious and inexcusable legislation is not in favor; but the fact that it secured serious consideration and support emphasizes the necessity of resisting the tendency toward such abuses of legislative power.

TO TEST THE LAW.

Manufacturers of adulterated and acid vinegar propose to test the constitutionality of the law prohibiting the sale, in Ohio, of all but pure cider vinegar. The decision of the Supreme Court will be looked for with considerable interest, as the decision will necessarily affect all acts for the suppression of the manufacture of adulterated food.

TELESCOPES.—Of the world's refraction telescopes, nine have apertures exceeding 20 inches, viz.: Lick Observatory, California, 36 inches; Pulka, Russia, 30; Yale College, 28; Littrow, Vienna, 27; University of Virginia, 26; Washington Naval Observatory, 26; Gateshead, England, 25; Princeton, New Jersey, 23; and Buckingham Palace, London, England, 21. Six of these instruments are the work of an American firm.

FILTERING DRINKING WATER.

THE INADEQUACY OF THE AVERAGE FILTER TO PURIFY THE LIQUID.

(Continued from page 231.)

With the imperfection of all other methods, we have in prolonged boiling a sure disinfectant of any water. I have usually found that maintaining a water at the boiling point for even less than fifteen minutes sufficed to prevent any of its germs from developing in gelatine, and this even with bad waters from sewage-infected rivers. The process of distillation likewise sterilizes water. That freezing temperatures destroy only a certain proportion of the bacteria which exist in the water from which the ice we use is formed, must, I think, be evident to those who have read Dr. Prudden's masterly paper on this subject. He there shows that the typhoid bacillus in ice retained its vitality for one hundred and three days. I shall simply echo his previous warning against putting ordinary ice into water which we are to drink, as many kinds of bacteria may be thereby introduced. The mechanical separation of impurities is the principal action in all filters, whatever their composition. The amount of oxidation produced by the passage of considerable quantities of water through inconsiderable masses of charcoal, sand, or anything else, seems never sufficient to chemically purify an infected water, although the Berlin system of filtration, by large beds of sand skilfully managed, effects a notable improvement in this respect. Almost all tissues tend to separate visible particles from water which is turbid, or in which a deposit settles. The fact that such matter is retained from the water passed through filters appeals very strongly to most persons; and the general assumption that such visible matter is dangerous, and that its removal insures the purification of water, seems to explain the extensive use of filters. They are all composed of felt-like matter (filtrum), or of any tissue or substance so woven, composed, or arranged by its structure to more or less completely arrest the passage of sediment and the floating particles existing in varying amounts in nearly all natural waters. The filter in domestic use may be ranged in two classes. In one class the water runs or is poured into a tank or other receiver over or beside some filtering medium, through which the flow is into a receptacle, and from this the water is taken as needed, or is stored, as fit for drinking. Those of the second variety are designed to connect with the faucets, and to strain from the water such impurities as it brings through the hydrant.

One of the most widely used varieties is this simple and portable one, which renders water clearer and more agreeable to the eye. It is composed of a cylinder of pressed carbon, three inches or less in diameter, and having nearly the same depth, which has from its interior a tube passing through the bottom of the funnel in which it rests, and thus requiring all the water passing out of the bottom of the funnel first to go through the mass of carbon. The flow is very sluggish unless use be made of pressure or suction, as, for example, by lengthening the tube taking water out of the filter, which impairs the effectiveness of this so far as purification of the water is concerned. After this has been used for a few days the retardation is very marked, and is due to the clogging of the filter by the various matters which form the sediment of the unfiltered water. This necessitates frequent cleansing. Taking a freshly sterilized carbon filter of this sort and pouring into the funnel Croton water just drawn after considerable has run from the faucet, and then collecting in sterilized test-tubes the first flow from the filter, adding of this (as already explained) one cubic centimetre to ten parts of softened nutrient gelatine, the mingled gelatine and water being poured upon a cool plate, it is seen that, before three days have passed, several colonies have developed. Comparing the number of these with that found from the original Croton water plated just after being drawn, we find at least from five to eight per

cent. of the bacteria pass through the filter and develop. The percentage rises as more and more water flows through. From fourteen trials made with simple Croton water, I found that through a carbon filter, freshly sterilized and the introduction of germs from the air and other sources of contamination being guarded against, the first flow showed only a small percentage of the bacteria found in the original water used. Then I continued the use of the same filter without re-sterilizing, and endeavored in every way to have the conditions under which it was tested as much as possible like those which would exist in domestic use, and the supply of water in the funnel was allowed to become exhausted at times, as usually during the night. In this filter thus used, the number of bacteria in the water passing through is, on the second day and thereafter, much larger than in the water taken after being poured into the funnel and before it has percolated through the carbon block. This excess, when large, seems to bear an inverse ratio to the volume of the flow. It is a familiar fact that, if fresh hydrant water in a flask covered with cotton (to prevent the entrance of bacteria from the air) be allowed to stand for a day at the temperature laboratory, the original bacteria in the water may be found to have increased considerably. So, as a collateral test, after water had been poured into the filter and before it has passed through the carbon, I have taken some of this original water and allowed it to stand in test-tubes and flasks, both stoppered and open, by the side of the filter similarly protected from the entrance of germs from the air, and exposed to the same variations of temperature. This water, examined at the same time as that coming out of the filter, showed that the bacteria appear to multiply much more rapidly in the substance of the filter than outside in separate flasks, likewise kept at the varying temperature of the laboratory, as it then was. The water poured in rarely contained as many as 225 bacteria in each c. c., and yet in from one to three days from the time when the freshly sterilized filter had begun to be used, the water after passing through the carbon showed several thousand in every case, and at times more than 25,000 bacteria in each c. c. All sorts of bacteria appeared to pass through, and not alone water species. The bacillus of typhoid fever will not only pass through, but in two of my trials I found that it had increased. For such special tests I used sterilized Croton water, into which bacteria were introduced from pure cultures. For artificial typhoid-water the bacillus or typhoid was added from agar and potato cultures. Harmful bacteria can pass through such filters, can possibly increase in them under certain favoring conditions, and from parallel tests seem to retain their vitality longer when in the substance of the filter than when in a glass vessel beside it. Clean sand fairly represents the granular masses of filtering material, and has all the advantages of powdered charcoal and magnesia as generally used for filtering considerable quantities of water, while it is more readily cleansed of the accumulated organic matter and, unlike spongy iron, adds nothing objectionable. Unless, as is the case of the large Berlin filters and others acting similarly, rendered more effective by overlying silt and organic matter, beds of sand do not prevent the passage of large numbers of bacteria. I have found many bacteria in waters from various artesian wells coming from a deep stratum of sand. Through a thin sterilized layer, from six inches to one foot in depth, of the finest sand procurable from beaches, all the way from forty per cent. to ninety-five per cent. of the bacteria in the original water pass, even when the level of the water is never more than three inches above the surface of the filtering mass. When a higher pressure is afforded by the water, very few of the bacteria are kept back. As in nearly all other filters, so through a layer of sand all kinds of bacteria, harmless or harmful, appear to pass easily. Here, too, they can multiply in the moist sand. Thus, I have found the hydrant water, which entered the sand filter with 290 bacteria in each c. c., to come out through the filter

(not freshly sterilized before using) with sixty and one hundred times as many as entered. In a gramme of sand taken from a filtering bed I have found more than 10,000 bacteria.

The combination of other substances with sand, as in numerous small and large filters, fails to improve the usefulness of either, except in so far as the elimination of sedimental and other coarser particles is concerned. Sponge is often employed for this purpose, as well as independently, yet it is incapable of separating bacteria from the water strained through it simply, or through sand or other substances used with it. When a large mass of fine, sterilized sponge is closely packed, the first few ounces of hydrant water that pass through may have a very small percentage of bacteria, but the proportion soon increases, while if the sponge-mass be considerable and loosely packed it may, even in the beginning and under exceedingly slight pressure of water, keep back no more than fifteen per cent. of the bacteria of the original water. This freshly sterilized sponge can at the end of the first day of ordinary use cause the water then flowing through it to contain from increase ten times as many bacteria as the Croton water poured in. The stronger the pressure, and the more rapid the flow, the lower is the ratio of excess due to increase in the filter over the quantity found in the unfiltered supply, which of course, was here, as in all other tests, regularly plated at the same time with the filtered water. When the flow is sluggish, and when it stops entirely at times because of all the water supplied having passed through, the sponge substance favors the increase of the bacteria to a greater extent than is the case with sand. The sponge, within twenty-four hours after sterilization may, under these conditions, cause the water first running through after the intermitting of the flow to have five hundred times as many bacteria in each cubic centimetre as are found in the water supplied for filtration. The only way to cleanse such a filter is to remove the sponge and boil it. Then the process repeats itself. In a few hours after unsterilized water moistens it, the mass of sponge is again teeming with bacteria. Sponge filters are, so far as I have seen, becoming less popular. It is easily recognized, even by an untrained observer, that the organic matter in sponge can undergo decomposition under the conditions obtaining in ordinary filters. Several of the large filter systems used in manufactories, hotels, and other places where large amounts of strained water are used, employ sponge, and the filtered water abounds in bacteria. Filter paper, as used in laboratories, is useful in separating precipitates and sedimental particles from water, but at least from fifty to seventy per cent. of the bacteria in Croton hydrant water go through with the water filtered, even if the pressure be exceedingly slight. The paper which I employed in the trials was, of course, carefully selected, and the folding was cautiously done, so as to prevent any break in the substance. Only single sheets were tested. "Prepared cotton," cleansed as for surgical dressings, and so made absorbent, removes considerably fewer of the impurities of the water than does the filter paper. Two-thirds of the bacteria pass through when the cotton is at its best, freshly sterilized and carefully packed. If enough be used, it will usually render the water clear; but, as it has been lauded as a filter, I ought to add the statement of my observation that, when left moistened with water, as in the intervals of filtering through it, the bacteria of the original water can multiply over one hundred and fifty times, and all kinds can pass through it. Combinations of the various substances mentioned have hardly any enhanced merit as strainers, and, as far as the bacteria are concerned, the combination seems to add no safeguard. Sand with carbon (bone charcoal) and sponge or cotton, hold back at first a larger percentage than sand would, by itself. Yet bacteria pass through in any case, and the increase afterward is greater than in simple sand. This I have seen in various filters.

In a well-known bottling establishment of New York, where immense quantities of artificial waters are pre-

pared every week, all the water used in their preparation flows through a layer of fine sand in the bottom of an enormous vat and, from the receptacle into which it then flows, it passes through a layer of charcoal. These layers are each less than a foot in thickness, and water passes rapidly through. The sediment is thereby removed, but in the single examination which I was enabled to make I found that each cubic centimetre of the filtered water had over 3200 bacteria on each of the two plates made, while the Croton taken from the hydrant in the immediate neighborhood on the day before averaged a few over one-eighth as many. Asbestos of the best quality, new, freshly sterilized and tightly packed, I have found capable of holding back all bacteria when the pressure of the water was low, and the few that were forced through when the substance was defective did not seem to multiply so rapidly as the other filter masses. While it, when of the best finish and most tightly compressed, deserves to rank next to the principle employed in porcelain filters, these latter are superior in that they can be regularly furnished of a uniform and definite quality which produces the best results, while I have found it difficult to keep the best asbestos boards up to their original standard of excellence, and if the surface be large enough to insure an abundant flow of water, flaws are liable to arise, and these let various bacteria through. With asbestos it is the fineness of the surface which the original water encounters that is important more than the thickness of the layer.

Although wire cloth strains out the coarsest particles, its structure does not cause the removal of any of the bacteria from water passing through. Still it has the positive merit of being easily cleaned, and can be heated in an oven or boiled to sterilize it. Furthermore, it does not furnish a filter-mass for the bacteria to multiply in, although harmful bacteria can adhere to it and become dangerous if it be left uncleared. Closely woven cloth, such as thick, dense flannel, when only a slight pressure is exerted by the water, may stop ten per cent. of the bacteria in the water poured upon it. It is easily cleansed and, if very often changed, and boiled before using, it serves excellently as a simple strainer without the disadvantage, in this respect, of ordinary filters, in whose substance the increase of bacteria may be enormous.

Like porcelain, filters of porous stone, if of the best quality, prevent the passage of bacteria with the water filtered through them just after they have been sterilized. To test porous stone I employed selected perfect specimens of a popular filter which very satisfactorily clears all turbidity from as bad a water as that of the Hudson River at its worst. In these, the stone layer was cemented into a porcelain cylinder and was about three-eighths of an inch in thickness. The pressure was never more than that of ten or eleven inches of water, and, at the fastest, less than three-fourths of a litre passed through in an hour. As the sediment of the water settled upon the surface of the stone, the flow became much slower. During twenty-six trials of this kind of filter, it had previously been sterilized ten times by exposure to moist or dry heat, or to both, for several hours. In every one of these ten cases the various waters poured into the receptacle above the porous stone for the first time after sterilization, flowed through germ-free; that is, the stone was permeable for water, but at first allowed no bacteria to pass through, and the plates of gelatine developed not a single colony from the usual cubic centimetre of the filtered water. After some hours of use, a few bacteria had insinuated themselves into the stone or were drawn through with the water. Within twenty-four hours the water flowing through and collected in sterilized receptacles contained many bacteria, which numbered regularly from seven to fourteen times as many as were in the original hydrant water supplied during these trials. After several days, the number of bacteria had so multiplied in the stone, that the first water running through after the stone had remained for several hours without any flow through it (as happens constantly over-night in

domestic use), showed in each cubic centimetre of this filtered water over one hundred times as many as the average water poured in for filtration. To test further these filters, I have used artificial waters made by adding bacteria of all shapes and characters, from pure cultures to Croton water sterilized by boiling. These various kinds can get through, but the disease-producing and spiral forms usually died out in large numbers before any could pass. From Croton water, the most marked by its predominance in the filtered product was a short, mobile bacillus which was unlike the two varieties first forced through the porcelain in my experiments.

Allied to the porous stone filters are those of porous porcelain prepared in this country. Porcelain baked at the same low temperature as the porous cups used in electric batteries is, in its efficacy, very much like the stone just described. Under a low pressure, water passing through this substance during one or two days, can become completely sterilized, which is a result superior to that got from the stone filters. Before much water has passed, the bacteria make their way through and multiply somewhat on the passage. This material, as I have thus far found it, of American manufacture, is therefore imperfect, yet is superior to rebaked porcelain in the single important respect that it is not brittle, while the rebaked porcelain cylinders of the Chamberland-Pasteur filters are quite fragile.

Recognizing the defects of other substances, Pasteur and Chamberland called attention to their filtering cylinders, in which the important element is unglazed, rebaked porcelain. Originally employed to facilitate "cold sterilization" of fluid culture media, the fact that water went through the porcelain without carrying any bacteria with it has caused attempts to popularize its use. Inasmuch as some bacteriologists on both sides of the Atlantic had reported that this filter prevented the passage of bacteria, I was careful to use only selected cylinders without flaws, and did not omit any precaution to prevent the introduction of contaminations.

(To be continued.)

ADJUSTABLE PIANOS.—It is reported that a Dr. Eisenmann, of Berlin, has invented a piano which by the aid of electro-magnetism can sustain, increase and diminish sound. This has been attempted by other experts, notably Boehm, the inventor of the metal flute. Another novelty will be that by moving the electro-magnets the timbre of the tone is changed; for example, from that of a violoncello to a piccolo. If true, we shall probably hear more of this novelty anon.

A LARGE CORPORATION.—The total miles of wire controlled by the American Bell Telephone Company is 145,732, of which 8,000 are under ground. The total number of employees is 6,132, and the total number of subscribers 158,732. The statement of the treasurer shows that the earnings from all sources, last year, were \$3,453,027.70, and expenses \$1,242,430.89, leaving the net earnings \$2,210,596.81. The dividends paid during the year, 16 per cent. on the capital stock, amounted to \$1,568,326.

SIMPLE TYPE-WRITER.—A newly patented type-writer dispenses with the inked ribbon and is greatly simplified in other ways. With the exception of the roller or platen and the keys, the machine is entirely of metal, yet it weighs only sixteen and a half pounds. There are only nine springs used in its construction. Alignment is secured at the point of printing instead of depending upon the accurate adjustment of the type-bars. The ink is in the form of a pad, making a ring around the type-bar basket at its top. Against this pad the face of the types rests at all times except when in the act of printing. The pad is said to contain ink enough for ten to twenty times as much writing as a ribbon. The type-carrier and the guide carry complementary bevels, which serve to preserve the alignment of the type. The height of the face of the type from the beveled shoulders is not exactly the same in all cases, but is varied to secure uniform impression with a uniform touch on the keys. The types can be quickly removed or replaced, and the carriage with the platen roll can be readily removed, thus allowing of the use of two or more carriages.

DIET IN DYSPEPSIA.

WHAT FOOD RELIEVES INDIGESTION AND WHAT TO AVOID.

There is probably no question more frequently asked the physician, nor more important to answer than "What shall I eat?" It is fortunate that we can now give a pretty satisfactory reply. Laborious investigations have very accurately classified the various articles of our food according to its chemical constitution and physical characters, and physiology very plainly and attractively points out how each and every one of these different kinds are effectively attacked and digested by the secretions with which the alimentary canal is successively flooded. We not only know how many ounces of meat, bread, butter, water, etc., is required for the healthy maintenance of the human being at any given age, but have elaborate table of the amounts and relative proportions of carbon, hydrogen, oxygen, nitrogen, etc., requisite for the same end, and painstaking and painful experiments by the score are recorded wherein it has been proved that man cannot long survive upon a pure diet of any one of the proximate principles of his body. In fact, the physiology of nutrition has now been brought almost to the condition of an exact science, so far as what takes place in a healthy individual is concerned. Under a normal state of affairs it never occurs to one, when he is hungry, to calculate the relative proportions of albuminoids, carbohydrates and hydrocarbons in the dishes before him. Instinct teaches him to so regulate his appetite as to adapt the supply to the physiological demand. This is what the lower animals do, and it is what we do when, as Herbert Spencer says, "we are in perfect harmony with our environments." Here is the trouble. Our physiological organism is out of tune with the concert pitch which characterizes the requirements of modern business and pleasure, and we feel confident that our readers will bear us out in the statement, that one of the first evidences of this discord will be manifest in the digestive organs. Right now, if we are on the alert, subsequent serious and fatal degenerations can be averted. The manifestations of derangement are generally flatulence, a sense of weight in the stomach, gastrodynia, palpitation, nausea, constipation, dizziness, hypochondria, and many other familiar symptoms. The books classify these features into a variety of forms: nervous, atonic, and acute dyspepsia; but we doubt whether any such arrangement would modify the dietetic treatment. To comprehend these symptoms, it is necessary, of course, that the physician should be familiar with the physiology of digestion, and of the chemical characters of the various classes of food. That sugar, fats, and starches by means of organisms swallowed with them are all fermentable and convertible into irritable gases and ichorous acids, which not only distress by their physical presence, but hinder the normal processes by their chemical properties. A patient presenting such symptoms should immediately be put upon a natural plan of living. It will not do to put him off with general instructions to eat and drink "what agrees with him." The general catarrhal condition of his mucous membranes, of which he now complains so much, can best be cured by copious draughts of hot water before meals. Antiseptic and astringent sprays to the upper air passages may be necessary, but our experience and belief is, that the whole track will clear up when physiological life is resumed. Washing out the stomach is rarely called for, except in extreme cases. Then the diet should be strictly according to the following table:

MAY TAKE

SOUPS, ETC.—Thin soups, beef tea, broths.

FISH.—Raw oysters.

MEATS.—Beef, mutton, lamb, chicken, game, venison, chopped meat, meat pulp.

EGGS.—Poached, soft boiled, raw or whipped up with water and liquor or wine.

BREAD AND FARINACEOUS ARTICLES.—Bread sparingly, corn bread, rice cakes, stale bread and butter, macaroni, sago, tapioca, dry toast.

VEGETABLES AND FRUITS.—Green vegetables, such as spinach, turnip tops, cresses, salads, celery, sorrel, lettuce, string beans, dandelion, chicory, asparagus, oranges, ripe peaches and pears,

DRINKS AND LIQUIDS.—Water, abundantly; hot water, an hour before meals; koumiss, buttermilk, milk and lime water, milk and seltzer, tea, claret, dry wines.

Thoroughly masticate all foods.

AVOID

Rich soups, all fried foods, veal, pork, hashes, stews, turkey, sweet potatoes, all starches and saccharine articles except as allowed, all gravies, made dishes, sauces, desserts, pies, pastry, puddings, ice cream, sweet wines, malt liquors, cordials, uncooked vegetables, white potatoes, cooked oysters.

In addition it will be necessary to give thirty drops of dilute hydrochloric acid together with about ten grains of a good pepsin after meals, and the bowels should be kept open. The great difficulty will be to hold the patient to the strict diet. In order to obtain success, however, this must be done, and in the majority of cases the result will fully justify the effort. Of course the above table can be gradually extended or modified to meet peculiar conditions. But as it stands, we submit it as having served admirably in a type of cases most of which were hitherto unmanageable.—*Dietetic Gazette.*

CITY PERILS.

THE DAILY RISKS ENCOUNTERED ON THE STREETS OF THE METROPOLIS.

A lively statement of the perils a wayfarer in the streets of New York encounters, is given by the *Albany Law Journal*, and under a humorous cover the writer tells some forcible truths. Thus, after describing the dangers incident to winter, he says: "Instead of snow-balling there is the base-ball nuisance, maintained by small boys, without pay, in imitation of men who play ball for salaries larger than those allotted to most of the judges. Instead of coasting or 'bobbing,' there is the swift and stealthy bicycle, as deadly as the ancient war chariot, running people down, or at least causing the nervous man to jump to one side like a tarantula. Then a school of sweet little girls on roller-skates swoops down upon us, making it dangerous to turn either way, and compelling us to stand still and see our salvation. Our neighbor's coal-hole is open or insecurely covered, and one leg slips in or both heels fly out, with woe to brittle bones. There is the peel of orange or banana dropped upon the flagging in disregard or defiance of our statute in that case made and provided. There is the danger of the whip-lash, flourished by the profane driver of an over-freighted wagon, or stuck out at conventional right angles over the sidewalk by the liveried lackey upon the carriage box, threatening loss of eyesight, or a mark on the cheek like a sabre slash in a German student's duel. We bruise our legs in climbing over skids stretched across the walk, or we barely dodge a box or barrel, or one of those pasteboard safes, spoken of by the funny man of the *Times*, falling from a hoistway. A rickety sign endangers our head or a low wire our thought. We stop to chat with a friend and lean against a deadly-charged electric pole and it is all over with the conversation. A passing plumber burns our coat with his unextinguished hand-furnace. A passing carpenter lacerates our trousers with a saw; a passing porter imperils our head with a long piece of gas-pipe on his shoulder. One is annoyed if not endangered by the servant washing the sidewalk by a hose, or a fireman carrying his wriggling serpent up a ladder. A fresh young Italian maid from Cork, with a white muslin nightcap on her head, runs us down with

a baby carriage, scarring our shins or necessitating a visit to the chiropodist. Then there is the woman's umbrella that wasteth at noonday, scooping us up after the manner of a drag net, or impaling us in its blind and headlong charge. All these are sidewalk perils. If we undertake to cross the street dangers multiply. The pedestrian has no rights which the driver is bound to respect, and the footfarer, unless a handsome woman personally conducted by a big policeman, will be subject to being run down by the driver of a beer wagon, or a physician in a hurry, or the chief of the fire department on his 'golomping' way to a conflagration, or a coroner intent on beating a rival, or a belated voter standing out till the last moment for his price, or even a hearse on its business way back from the grave. Runaway horses are another source of midway perils, and so are wagons turning around corners with long irons or beams projecting from behind. This list might, perhaps, be increased, but these common instances show that man walks the city amid perils scarcely less than those of the desert, the sea, the forest, or even the battlefield; almost as deadly as those encountered and enumerated by St. Paul. Most of them, indeed, are 'perils by false brethren,' against which the injunctions and penalties of the law are futile. To avoid misapprehension, we will add that these lines are not written in the interest of any particular accident insurance company."

AMERICAN LARD.

OFFICIAL ENDORSEMENT OF COMPOUND LARD IF SOLD WITHOUT MISREPRESENTATION.

The fourth of the Agricultural Department's bulletins on the subject of food adulterations pertains to lard and lard adulterations, and is the work of Prof. H. W. Wiley, chemist of the Department. It is probably the most complete discussion of the subject ever presented. Prof. Wiley has won public confidence by the candor with which he has reported on the sorghum industry and various scientific questions involving commercial interests. As the result of a thorough investigation of lard adulterations, he concludes that the use of adulterants which cheapen the product without rendering it unwholesome is carried on on a very large scale. He finds no confirmation of the charge that adulterants injurious to health are used, and is convinced that this is not the case unless in few instances and to a small extent. Like all other impartial investigators, he reaches the conclusion that the trade in pure and also in compound lard must be recognized, and that each should be conducted under truthful representations. The bulletin, after defining lard, cotton oil, stearine, etc., gives the distinguishing properties of pure lard, which may be summarized as follows:

PHYSICAL PROPERTIES.—The specific gravity at temperature of 35 deg. varies from .903 to .906, and at 100 deg. from .860 to .865; it is distinctively lower than that of cotton oil. The melting point of a pure lard is about 40 deg.; of steam lards about 37 deg. A wide variation from 40 deg. should lead to suspicion. When mixed with sulphuric and nitric acids of proper density pure lard gives only a slight color, varying from light pink to faint brown. The refractive index of pure lard is distinctly less than that of cotton seed oil at the same temperature, the mean number for a pure lard at 25 deg. being about 1.4620. There is a marked difference between the numbers representing the rise of temperature in pure lard and those representing the rise in mixed lard, the extremes in ten samples of steam lards being 38.8 deg. and 42.1 deg., and in two samples of pure lards 37.1 deg. and 46.2 deg.

CHEMICAL PROPERTIES.—The quantity of volatile acid in a pure lard is quite minute. The quantity of fixed acids (non-volatile and insoluble in water) varies from 93 to 95 per cent. The quantity of free acids rarely exceeds 5 per cent. The percentage of caustic potash

REVIEWS OF NEW BOOKS.

ALDEN'S MANIFOLD CYCLOPEDIA, Vol. 12. J. B. Alden, 393 Pearl Street, New York.

In this latest issue of the valuable series to which we have previously taken occasion to refer, the same desirable characteristics present themselves as in the preceding volumes. Comprehensiveness, conciseness, profuse illustrations, typographical excellence and convenience of form are the indisputable features which impart the special value to the *Manifold Cyclopaedia*. The present volume takes the work from *Dominio to Electric Clock*. Among the articles treated at more or less length we notice the following: *Dormant Vitality*, 3 pages; *Drainage* (in *Agriculture*), about 3 pages; *Drama*, over 10 pages; *Dyeing*, 5 pages; *Dye-Stuffs*, about 5 pages; *Ear*, 9 pages; *Earthquake*, 4 pages; *Easter*, 3 pages; *Elipse*, 9 pages; *Education* (including *Military, State and National*, with valuable statistics), 47 pages; and *Egypt*, nearly 24 pages. *Electrical Units*, over a page, embraces the nomenclature recently made by leading scientists, and is here first published in a *Cyclopaedia*. This work is a dictionary as well as a *Cyclopaedia*—a fact which adds greatly to its other merits.

AMERICAN RESORTS, WITH NOTES UPON THEIR CLIMATE.

By Bushrod W. James, M. D., Philadelphia and London. F. A. Davis.

This work, as might be inferred from its title, was prepared specifically for invalids, but it is equally useful to physicians seeking, on behalf of their patients, remedial climates for particular cases. It opens with a brief account of climate as related to the prevention or cure of diseases. The complexity of the elements entering into the formation of climate is well defined and illustrated. Among these elements are temperature, moisture, sunlight, rainfall, air pressure, electricity, soil, configuration of the ground, forests, latitude, altitude, prevailing winds, influence of ocean currents, influence of large bodies of fresh water. All these and more are important factors in producing what we call climate. The character of the vegetation, the character and extent of the forests, the number of villages, cities or towns, etc., all greatly modify climate. It is pointed out that the benefits and dangers of health resorts depend quite as much upon the disease and constitution of the patient as the character of the climate. Suitable surroundings, congenial company, good food, are all factors not to be forgotten, nor are the advantages of a well-lined pocket book omitted from the calculation. The work is both interesting and practical and will fill a useful mission.

EGG LORE.

SOME USEFUL INFORMATION ON A VERY COMMON SUBJECT.

The yolk of egg alone is better for invalids, and will be frequently relished when the white would be rejected. When cream cannot be procured for coffee, the yolk of a soft-boiled egg is a very good substitute. To prevent the juice of fruit pies from soaking into the bottom crust, wash the crust over with a beaten egg before putting in the fruit. When making frosting in warm weather, set the whites of the eggs on ice for a short time before using. If the eggs you have to use for frosting are not quite as fresh as you could desire, a pinch of salt will make them beat stiffer. The white of an egg, an equal quantity of cold water, and confectioners' sugar—triple X—sufficient to make it the required consistency, makes a frosting which is very nice, and, as it requires no beating, is very easily made. When beaten eggs are to be mixed with hot milk, as in making gravies or custards, dip the hot milk into the beaten

eggs a spoonful at a time, stirring well each time, until the eggs are well thinned, then add both together; this will prevent the eggs from curdling. It is often a question what to do with either the whites or yolks of eggs which are sometimes left after making cake, frosting, etc. Either will keep well for a day or two, if set in a very cool place—the yolks well beaten, and the whites unbeaten. Whites or yolks of eggs may be used with whole eggs in any cake or other recipe calling for eggs, counting two yolks or two whites as one egg. Sort out the little eggs and keep them for settling coffee, using the larger ones for cake. When eggs are cheap and plentiful in summer, wash all those used in cooking before breaking. Save the shells, and when a quantity are dry, crush them fine; beat half a dozen eggs well and stir them into the shells. Spread them where they will dry quickly, and, when thoroughly dry, put in a thin cotton bag and hang in a very dry place. In the winter, when eggs are scarce and dear, a tablespoonful of this mixture put in a cup, a little cold water poured over it and left to stand over night, or for a half an hour or so in the morning before breakfast, will answer every purpose of a whole egg in settling coffee. Egg stains can be easily removed from silver by rubbing with a wet rag dipped in table salt. To clean vinegar bottles and cruets, crushed egg-shells in a little water are as good as shot, besides being healthier and handier. To mend broken china, use a cement made by stirring plaster of Paris into the white of an egg. An egg, well beaten, and added to a tumblerful of milk, well sweetened, with two tablespoonfuls of the best brandy or whiskey stirred in, is excellent for feeble or aged persons who can take little nourishment. Eggs are valuable remedies for burns, and may be used in the following ways: The white of the egg simply used as a varnish to exclude the air; or, the white beaten up for a long time with a tablespoonful of fresh lard till a little water separates; or, an excellent remedy is the mixture of the yolk of egg with glycerine, equal parts; put in a bottle and cork tightly; shake before using; will keep for some time in a cool place. For inflamed eyes or eyelids, use the white of an egg beaten up to a froth with two tablespoonfuls of rose-water. Apply on a fine rag, changing as it grows dry; or, stir two drachms of powdered alum into the beaten whites of two eggs till a coagulum is formed. Place between a fold of a soft linen rag and apply. For a boil, take the skin of a boiled egg, moisten it and apply. It will draw off the matter and relieve the soreness in a few hours. To cleanse the hair and promote its growth, rub the yolk of an egg well into the scalp, and rinse out thoroughly with soft warm water. The eggs of the turkey are nearly as good as those of the hen, and that of the goose is about as preferable for most culinary purposes. Ducks' eggs have a richer flavor, but are not as desirable to eat alone; they are, however, as good for all purposes of cookery, and for puddings and custards superior to any. The eggs of the guinea hen are also good for all culinary purposes.—*Good Housekeeping*.

ELECTRIFIED STEAM.—Hemholtz has shown that if an invisible jet of steam be electrified or heated, it becomes visible with bright tints of different colors, according to the potential or the temperature.

EXTREMES MEETING.—Fort Keogh, Montana, has the widest range of temperature of any place on earth. Last summer the thermometer ranged from 120 to 130 degrees above, while recently it marked 65 degrees below zero—a total range of 195 degrees.

DEVELOPMENT OF SEEDS.—According to Schubater, the majority of plants produce larger and heavier seeds at the north than at the equator, and this, according to him, is due to the long duration of the days of summer, and to the long exposure to the sun. Beans carried from Christiana to Dronheim have furnished, in the latter locality, seeds that had gained sixty per cent. in weight. Thyme from Lyons, planted at Dronheim, has gained seventy-one per cent. in weight. On the contrary, the seeds of northern plants, developed in more temperate climates, lose in weight.

used for saponifying a lard is about in the mean 280.33 for pure lards, and 283.45 for steam lards. There is a wide variation between the numbers representing the percentage of iodine absorbed by pure lard and those representing that absorbed by adulterants used in making refined lard. Pure lards treated with a solution of nitrate of silver give no reduction of metallic silver, or at most only a trace of it, and no or only a slight coloration. Under the microscope lard shows a definite crystalline structure, but does not plainly reveal the character of the crystals. The quantity of water in pure lard varies from a mere trace to .7 per cent.

Prof. Wiley then gives the properties of lard adulterants, namely, cotton oil and stearines—lard stearine, oleo. stearine and cotton oil stearine. In reference to other alleged adulterants, he says: "It has been claimed that other substances than those mentioned have been used in the adulteration of lard, but these claims seem to rest on no valid foundation. Among these substances dead hog grease or dead hog stearine is the one most frequently mentioned. Peanut oil and some other vegetable oils have also been mentioned as adulterants of lard. While it may be true that many attempts have been made to use the above substances in the adulteration of lard on a small scale, it is also quite true that such attempts have never attained any importance from a commercial point of view." The total weight of cotton oil used in manufacturing mixed lard is estimated at 120,000,000 pounds a year. In conclusion, Prof. Wiley says: "I have endeavored to set forth in the preceding pages our present knowledge concerning the constitution of pure lard and its adulterations. The question of the wholesomeness or unwholesomeness of the various ingredients has not been raised in these investigations. It is hardly necessary to call attention, however, to the fact that the stearine and cotton oils used in the manufacture of adulterated lard are, so far as known, perfectly wholesome and innocuous. There is every reason to believe these are fully as free from deleterious effects upon the system as hog grease itself. A more serious question which is presented is the effect of selling adulterated lard as pure lard or refined lard. To do this is a fraud upon the consumer. Although it has been claimed by the large manufacturers of refined lard that the term refined is a trade-mark whose meaning is perfectly well known by seller and purchaser, yet it cannot be denied that the meaning of the word refined in the above sense is generally unknown to the consumer. The idea conveyed to the ordinary consumer by the word refined would be an article of superior purity for which he would possibly be willing to pay an increased price. It is gratifying to know that since the investigations recorded above were commenced the largest manufacturers of compound lard in this country have decided to abandon the use of the term refined, and to sell their lards as compound lard or lard compounds, and, in cases where no hog grease at all enters the composition of the article, to place it upon the market as cottolene or cotton seed oil product. In cases before English courts it has been shown that the word 'refined' does not convey to the judicial mind the idea which is claimed for it as a trade-mark, and hence the wisdom of the manufacturers in changing the labeling of their wares is at once manifest. The extensive adulteration of American lards has afforded grounds to foreign countries for prohibiting importation of our production or of levying upon it a heavy duty. By requiring all food products made in this country to be labelled and sold under their true name we could secure for our products immunity from any such exclusion from foreign countries as is mentioned above. The right of foreign countries to levy an import duty on our products is one which we would in no measure seek to abridge, yet by the recognized purity of our exported food articles we should see that they secure a proper entrance into foreign countries. These remarks are not alone applicable to lard and its adulterations, but to all kinds of food products, whether they are to be consumed at home or abroad."

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

May.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant, pigeon, chicken, duck, turkey, goose, snipe,

FISH.—Anchovy, bass, catfish, cod, eels, clams, flounder, halibut, herring, lobster, mackerel, mussels, perch, porgie, rock-fish, salmon, shad, shrimp, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Artichokes, beans, carrots, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

GREEN PEA SOUP.—Boil one quart of green peas and one onion in just enough water to cover them till they can be easily mashed; mash and add a pint of stock or water; cook together two tablespoonfuls of butter and one of flour until smooth, but not brown; add to the peas, and then add a cupful of cream and one of milk; season with salt and pepper, and let boil up once. Strain and serve. A cupful of whipped cream added the last moment is an improvement.

HAM CUSTARD FOR BREAKFAST.—Make a custard of one quart of milk and six eggs; add about two cups of finely chopped ham, and salt and pepper to taste; mix meat and custard well together, pour into a deep dish, put little bits of butter over the surface and bake.

EGG PLANT.—Pare and slice an egg plant; lay (the slices) in salted water for an hour before cooking; when ready to cook them, dry the slices with a towel; sprinkle each slice with a little pepper and salt, dust them with flour and fry them in butter; or, after preparing them as above, dip the slices in beaten egg and cover them with grated bread crumbs after which fry them in boiling hot lard to a rich brown color. Drain and serve immediately.

WAFFLES.—Sift together one quart of flour, a teaspoonful of salt, two heaping teaspoonfuls of Horsford's baking powder; beat separately the yolks and whites of three eggs, add to the yolks a pint and a half of milk and an ounce of creamed butter; mix quickly with the flour, then add the beaten whites; heat the waffle iron and grease it evenly—a piece of salt pork is best for this purpose—pour the batter into the half of the iron over the range until nearly two-thirds full, cover, allow to cook a moment, then turn and brown slightly on the other side.

RASPBERRY CUSTARD.—Take half a pint of ripe raspberries, pass them through a sieve, mix it into a pint of milk, in which a dessertspoonful of corn flour has been stirred, free from lumps; beat a large egg thoroughly, mix it with the other ingredients, and set the whole in a stewpan to boil; it must be constantly stirred.

CARAMEL PUDDING.—Put some powdered sugar into a plain copper pudding mould; melt it in the mould so that the inside will be perfectly masked over with the caramel; fill up with a custard of ten yolks of eggs and one pint of cream, flavored with a glass of rum, and sweetened to taste; steam gently for about 40 minutes, and serve without sauce.

CARROT SALAD.—Boil five or six young spring carrots; drain and cut them into narrow strips; arrange them tastefully in a salad bowl; put around them a half pound of cold mutton cut into dice; strew over the dish some chopped celery. Add a plain dressing and serve.

STRAWBERRY ICE CREAM.—Pass a pint of picked strawberries through a sieve with a wooden spoon, add four ounces of powdered sugar, and a pint of cream, and freeze.

SEWED SHOES.

THE DISTINCTION BETWEEN THOSE MADE BY MACHINERY
AND BY HAND.

There are three kinds of sewed shoes. First, those in which the soles are sewed direct to the uppers by the McKay machine—they are usually called machine-made shoes—an acceptable make for all but fine shoes, but not the most flexible, soft and easy. Second, hand-made; which means that the uppers are sewed to a welt and the welt to the sole with the old-fashioned shoemaker's awl and wax-end. Third, Goodyear-welt; which means that the sewing is done by the Goodyear machine exactly the same as by hand; this work can be distinguished from hand work only by its greater evenness and regularity; it is usually called hand-work in shoe stores. Of these three kinds, machine-made shoes are the cheapest and hand-made the dearest. Opinion is divided as to which are the best—hand-made or Goodyear-welt. A merchant, therefore, has to keep them both. But, in our opinion, there is no difference between them; and Goodyear-welt are the cheaper. We expect to see Goodyear-welt take the place of hand-made, just as machine-sewing has entirely crowded out hand-sewing in making uppers; there isn't a stitch of hand-sewing in an upper.

IMPORTED CURRANTS.

THE SO-CALLED CURRANTS ARE SMALL GRAPES.

A frequent error among those interested in cookery is to suppose that the imported articles called currants, used in fruit cakes, mince pies, plum puddings, buns, and the like, are a fruit resembling our own black or red currants dried. In reality, these dried fruits which we call currants are just as much raisins as anything that is offered under that specific name, being only a dried grape no bigger than a common pea, and each bunch but two or three inches long. These little grape bunches are picked and dried in the sun, and are so full of saccharine matter that the exuding sugar crystallizes them into a compact form of sufficient hardness to require considerable strength to open the mass and prepare the fruit for packing, they being then a second time compressed, this time by means of treading with the feet, which processes perhaps account for a great deal of the dirt and gravel usually to be found packed with them. The grapes grow all through the islands and adjacent regions of the Grecian Archipelago, and being exported originally from Corinth, they were called at first corinths, which word was gradually corrupted into currants, till the primitive plant and its fruit was forgotten in remembrance of the little round berry of our own gardens, which might be dried from now till doomsday without developing enough sugar to melt them together as we find the Zante currants melted.—*Harper's Bazaar.*

FIFTY YEARS OF PROGRESS.

WHAT HAS BEEN DISCOVERED IN THE PAST HALF CENTURY.

The last fifty years have probably constituted the most important and intellectually progressive period of human history. Within this half century the following inventions and discoveries have been among the number: Ocean steamships, street railways, telegraph lines, ocean cables, telephones, phonograph, photography and a score of new methods of picture making, aniline

colers, kerosene oil, electric lights, steam fire engines, chemical fire extinguishers, anaesthetics and painless surgery; gun cotton, nitro-glycerine, dynamite, giant powder; aluminum, magnesium, and other new metals; electro-plating, spectrum analysis and spectroscopy; audiphone, pneumatic tubes, electric motor, electric railway, electric bells, typewriter, cheap postal system, steam heating, steam and hydraulic elevators, vestibule cars, cantilever bridges. These are only a part. All positive knowledge of the physical constitution of planetary and stellar worlds has been attained within this period.

BRILLAT-SAVARIN'S MAXIMS.

SEASONABLE SUGGESTIONS IN "THE DECALOGUE OF
GASTRONOMY," DONE INTO RHYME.

I.

Were there no life, the universe were naught;
Life to sustain, apt food must still be sought.

II.

Beasts feed, man eats, the man of cultured sense
Alone gives eating its due eminence!

III.

The fate of nations on their food depends!

IV.

Say what you eat—I'll know your tastes and friends!

V.

Nature compels us all to take a bite,
But softens with the bait of appetite
Her iron rule; obedience she rewards
With pleasures only known at dainty boards!

VI.

Good livers show their judgment in their food.
Why not prefer that which our taste finds good?

VII.

All ages, ranks and climes enjoy good cheer—
A recompense for other goods not here!

VIII.

The first long hour is doubly drear, except
At tables where a knowing *chef* is kept!

IX.

Who finds a planet out, his race may wish
To serve. He serves them who finds out a dish!

X.

A drunkard knows not how to drink; 'tis meet
To say a glutton knows not how to eat!

XI.

First solid foods—then the more delicate!

XII.

Mild wines the first; the heady should come late!

XIII.

To the cloy'd palate's taste no liquor's fine;
So, after several glasses, change your wine!

XIV.

Without the cheese, the dinner's final course
Is like a one-eyed beauty, if not worse!

XV.

Cooking's an art, but genius rules the roast.

XVI.

Promptitude cooks and guests alike should boast!

XVII.

Because one guest is late, 'tis rude to make
The others wait their dinners for his sake!

XVIII.

To an ungarnished board who bids his guests,
His friendship puts to an inhuman test!

XIX.

Post-prandial coffee tests the hostess's skill—
The *pousse-cafe* the host's good taste and will!

XX.

Once in the threshold, every guest should boast
A buffer 'gainst all evils in his—host!

MYSTIC PUDDING.—"I never could understand Browning," said the member of the Dante Club, "but there's nothing difficult about Dante when you once get the hang of him." "Same way with Browning," said the member of the Browning Club. "When I tackled him first I didn't seem to catch on, but he's just pudding for me now."

CHEAP AND POOR.—The Minnesota Legislature prohibited Chicago beef from its State. It is said Minnesota meat is now thin, gristly and stringy. The competition allows the local dealers to buy cheap beef at a less price. Travelers complain about this sort of meat that they get at hotels and railroad stations.—*Buckeye Grocer*, May 9.

POISONING FROM CHROME YELLOW.—Dr. David D. Stewart reports (*Medical News*) seventy-nine cases of poisoning from the eating of cake dyed with chrome yellow. He says, "It is to the point, in this connection, to state that I believe I can trace to lead poisoning from dyed cakes many cases of disease of seemingly obscure or supposed idiopathic origin, seen in the past year and a half of my service in the out-patient medical department of the Jefferson College Hospital. Among these are cases of pronounced anemia, renal fibrosis, peripheral neuritis, spastic paralysis, neurasthenia, obstinate headache, and at least one case of long-standing delusional mania."

ELECTRIC DENTISTRY.

A REPORTED DISCOVERY THAT WILL BE A BOON TO SUFFERING HUMANITY.

Boston people now-a-days have their superfluous teeth drawn by electricity. The process is very simple, scarce any apparatus being required beyond an ordinary two-cell battery with vibrator attachment. This attachment is a thin strip of metal fastened at the ends, which is made to vibrate a thousand or more times a second by the electric current. At each vi-

bration the circuit is cut off and renewed again, the effect being to give a perfectly steady flow of the mysterious fluid. In order to make sure that the flow is quite satisfactory, the operator tunes the machine—assisted by a little reed tuning-pipe—until the strip of metal sings "A." Now, to the battery are attached three wires, two of them handles at the ends, and the third is hitched to a forceps. The patient in the chair is given a handle to hold in each hand, and the current is turned on gradually until it becomes painful. Then he is told to grasp the handle as strong as possible, the electricity—having been switched off for a moment—is turned on again suddenly, and the dental surgeon applies his forceps simultaneously to the tooth. The instant the molar is touched, it, as well as the parts surrounding, become electrified, and absolutely insensible to pain. When it is withdrawn from the socket the subject of the operation feels not the slightest disagreeable sensation. A jerk, and the tooth is out, the patient drops the electric handles, and the painless affair is over.

CONTEMPT OF COURT.

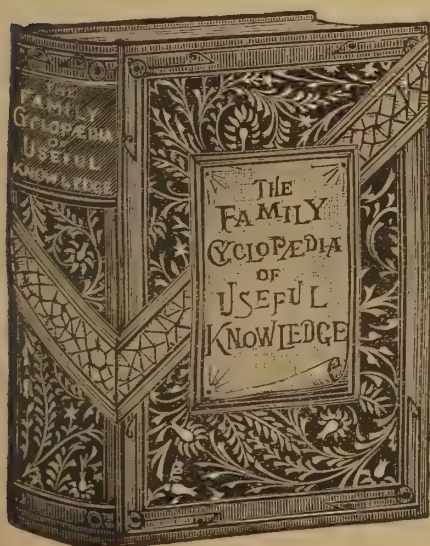
Judges are often, in the estimation of offenders at least, positively vindictive in their infliction of penalties for contempt of court. They seem to elevate, in their estimation, small faults of omission or commission against their mandates almost to the rank of felonies, and, perhaps, were they not restrained by law, might even punish them as such. While it must be admitted that this tendency too often springs from an excessive appreciation of its own dignity in the judicial mind, the resort to excessive punitive measures for wilful disregard of an order of court is not without very high precedent. Nature sets the example. She holds high court in the human body, and no judge is more relentless and severe in enforcing his decrees than is she where there is ap-

parent wilful delinquency. Her rule is gentle to the obedient, lenient to those amenable to proper discipline, but terrible to those who set her at defiance. How mild is the "summons" first served upon us, in early spring generally, but whenever we need it, regardless of season, when we have been transgressing her beneficent laws. It comes, perchance, as a mere feeling of lassitude, depression of spirits, or weariness that is not the fruit of labor. "Spring fever," we say, and put in a "response" in the shape of an alcoholic stimulant, or a plucky resolve to work the harder and not give way to it. Then a "complaint" reaches us. Perhaps a few pimples, a sty or two on our eye-lids, or a boil, may be its form. Our "answer" is some superficial treatment of the affected spots or a violent but valueless purgative, or it may be that we pay no further attention to the matter than waiting, a sort of tacit demanding of "a bill of particulars," for mere purposes of delay. Then we get our particulars with a vengeance. Furred tongue, vile breath, nausea, headaches, pains in the back, constipated bowels, saffron complexion, all these are the items that if we have the sense to read them, sum up an appalling condition of our digestive, assimilative and excretory organs. Each phase of our collective ailments seems serious enough to be regarded as a distinct malady and treated as such; yet, in point of fact, each is but a symptom and cannot be remedied with any degree of permanency unless cure is simultaneously applied to all. But through neglect some of them may be specialized to such preponderating importance that they rise to the dignity of having Latin names of their own—of being made special subjects of treatment, and of serving as excuses for nostrums concocted under pretence of their specific cure. By that time "summary action" on a sort of "supplementary proceedings" has been opened against us in nature's court, and the heads of argument by our medical counsellors are "Bright's disease," "diabetes," "torpid liver," "indurated liver," "enlarged spleen,"

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

"chronic constipation," "dyspepsia," and other like interesting subjects. Neglect of the summons originally served upon us, and of the subsequent mandatory warnings, has laid us liable to punishment for contempt of court and the great judge, Nature, will not easily let us escape. What, then, is the proper course of a sensible person who finds himself in receipt of even the smallest hint that he has invited the attention of that tribunal? To make his submission at once, and take such steps as will put him on a good footing with the court through atonement for errors past and purging himself of even the shadow of a suspicion of contempt. Delay is the greatest unwisdom. Time here makes small offences great, for there is no such thing as remaining *in statu quo*. One must, when not in perfect health, grow either better or worse. The former is impossible, for unaided nature when once the process of deterioration has set in, and the latter is inevitable. The folly next greatest to delay is in resorting to inefficacious remedies, such as can have, at best, only an impermanent effect upon individual organs, and do not, by comprehensive and potent action upon all together, at once eliminate the cause of disease, restore healthful conditions to the springs of life, and so permanently relieve. The indicated want, when such complaints appear as have been noted, is for a thorough and speedily-acting alterative and tonic medicine, and that which best meets this requirement is Ayer's Sarsaparilla. It is a compound of the best alteratives in the Pharmacopoeia, made more perfectly than would be possible for any individual pharmacists to equal, and has the well-deserved confidence of the medical profession all over the world.

BUSINESS NOTES.

ARMOUR'S BEEF EXTRACT.

THE MOST CONCENTRATED FORM OF NUTRIMENT YET DISCOVERED.

Professor Liebig, in his "Annals of Chemistry," writes on the subject of ordinary beef extracts, with particular reference to his own preparation: "If it were possible to produce an extract of beef at reasonable cheapness, which would contain the albuminoids together with the extractive matter, such a preparation would be prefer-

able to my extract of meat, inasmuch as it would contain all the nourishing substances of the meat. I have declared repeatedly that in the preparation of the extract the albuminoids remain in the residue at a loss to nutrition, and that this certainly is a defect of the extract." It is, therefore, a popular fallacy that home-made soups, bouillon, beef tea, and the ordinary beef extracts after Liebig's formula, contain all the nourishing qualities of the meat; they do not; and such preparations must rank only as stimulants and not as nutrients; they are devoid of the really nutritive substances, for in the methods of their preparation the albumen and fibrine of the meat becomes coagulated like the white of an egg when boiled, and remain unextracted in the residue. The value of such a preparation, containing the most concentrated nutriment in the most digestible form, cannot be over estimated. It is invaluable as a remedial agent in all cases where food is medicine and where the strength of patients must be sustained, while the system with medical aids rids itself of disease; also, when convalescence is established and the system, weak and depressed by disease, needs to be built up by concentrated nourishing diet. Considering the difficulties which had to be mastered in the production of this article, its priceless value as food for patients suffering from severe forms of illness, and its very great usefulness in all cases of anaemia, indigestion, intestinal catarrh, or weakness; considering its purity, fine beef flavor and solubility, we cannot but think that our generation has cause to be thankful for the solution of a great problem by which many lives have already been saved and much distress has been relieved. Such an extract as that just described is now in the market, put up under the guaranty label of Messrs. Armour & Co., of Chicago. It certainly comes nearer the standard of a perfect beef extract than most of those now in the market. Try it.

"KICKING AGAINST THE PRICKS."

Manufacturers of bristle tooth-brushes describe laceration of gums, "scratching of enamel," "injury to fillings," "loose bristles," etc., as resulting from all other "makes" except their own; but forget that "the nature of the beast" does the mischief. What we want is a material which avoids these evils and possesses (as bristles do not) the natural properties to perfectly polish, smooth and cleanse the teeth, as is now supplied by the

Ideal Felt Tooth Polisher. Felt being the best known polisher and a thorough absorbent of the deposits which cause decay of the teeth.

FOR NERVOUS DISEASES.

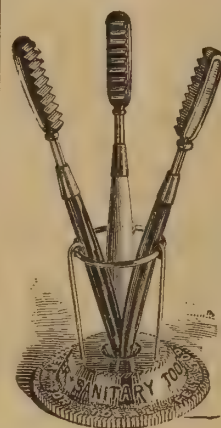
USE HORSFORD'S ACID PHOSPHATE.

Dr. F. G. Kelly, Alderton, W. T., says: "I have prescribed it in a large number of cases of restlessness at night, and nervous diseases generally, and also in cases of indigestion caused by lack of sufficient gastric juice of the stomach, with marked success, and consider it one of the best remedies known to the professional world."

A SAFE RELIANCE.

"Love all, trust a few," but always trust an Esterbrook Steel Pen for its general reliability. Ask your stationer for them.

PRESERVATION OF MILK.—It is said fresh milk may be preserved indefinitely by freezing it and maintaining it in the frozen state until wanted-for-use. Many of the steamers now sailing on distant voyages are provided with steam refrigerators, in which milk and other foods may readily be preserved for any length of time.



IF YOU ARE SICK and cannot raise your head, use the IDEAL FELT Tooth Polisher

to greatly add to your comfort.

If you are WELL and would enjoy life's fullest blessings, use it to increase your health and happiness. If you live in Society use it to improve your appearance. If you live in Solitude use it to preserve your teeth. If you are Rich it will make you richer. If you are Poor it will save you money.

WHATEVER YOUR AGE OR CONDITION YOU CANNOT AFFORD TO BE WITHOUT IT.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

Tabasco Pepper Sauce OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

C. O. P. Cotton Seed Lard ANTI-DYSPEPTIC.

Warranted free from Hog Fat.

PURE, WHOLESOME, ECONOMICAL.

For sale by all Grocers. Send for Illustrated Pamphlet, entitled

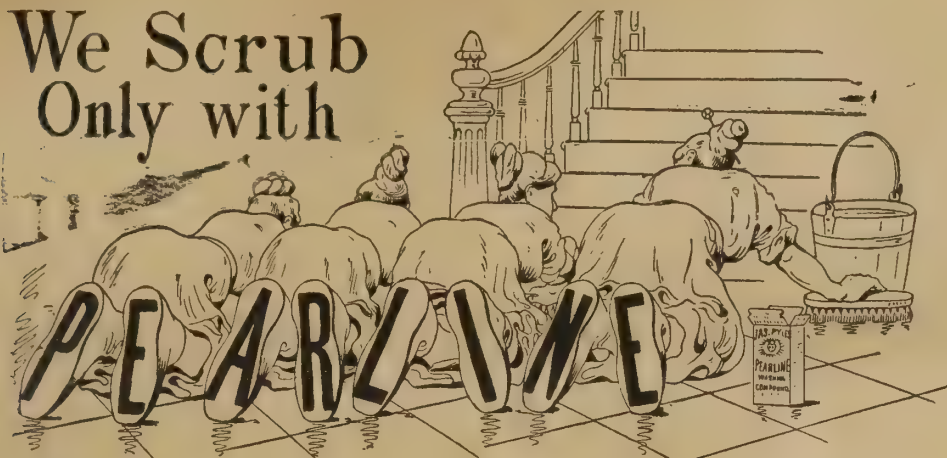
"SOME THINGS ABOUT LARD."

BRANCH OF

THE COTTON OIL PRODUCT CO.,
19 West 42d St., New York.

Ask Grocers for our Patent Barley CRYSTALS, and, unvalued Cereal Food, for Breakfast Tea & Dessert. Not sold there, write us for free samples. GLUTEN FLOUR and SPECIAL DIABETIC FOOD are invaluable waste-repairing flours for Dyspepsia, Diabetes, Debility & Children's Food. No bran; mainly free from starch. For all family uses nothing equals our HEALTH FLOUR. Send for circular offering 4 lbs. free. FARWELL & RHINES, Props., Watertown, N. Y.

We Scrub Only with



Because we have found nothing which is harmless, that will make things perfectly clean with so little labor in so short a time; besides, it is economical and makes the work easy.

Do you suppose—that anything could attain such popularity as PEARLINE enjoys, and hold it, without wonderful merit—that people would use it year after year were it harmful to fabric or hands—that the hundreds of imitations are attracted by anything but its wonderful success?

You'll do well to use Pearline—see that your servants use it, and insist that they do not use the imitations which they are often induced to try because of the worthless prize accompanying it, or by the glib and false argument of some peddler.

Remember, PEARLINE is never peddled.

135

JAMES PYLE, New York.

Fine Table Wines

From our Celebra-
ted Orleans
Vineyard.

Grand Harbath & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

HANDY TO AMUSEMENTS AND SHOPPING.

When in New York stop at the Sturtevant House, Broadway, cor. 29th Street; it is finely furnished and the prices are reasonable, You won't regret it. Mat-
thew & Pierson, Props.—Bulletin.



BLAIR'S PILLS

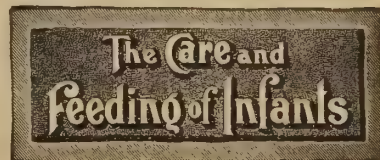
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, COODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT
ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

Robert Gordon's

TRADE MARK.

SPICED + SEA + FOODS

(IN GLASS.)

OYSTERS, LITTLE NECK CLAMS, MUSSELL, SHRIMP, LOBSTER, Etc.,

Packed in 8 and 16 oz. Jars. Guaranteed to be strictly Pure.

MADE OF THE FINEST MATERIALS.

—ALSO—

ROBERT GORDON'S CONDENSED CLAM CHOWDER,
In 3-lb Cans. Cheapest and Best in the Market.

MANUFACTURED BY

JONES, GORDON COMPANY, Limited,
204 West Street, New York.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILLER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, ONLY THREE possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppel's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College. At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.
Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE

RECAMIER FG. Co., 52 and 54 Park

Place, New York City.



LADIES

Enamel your Ranges twice a year, tops once a week and you have the finest-polished stove in the world. For sale by all Grocers and Stove Dealers.

GORDON & DILWORTH

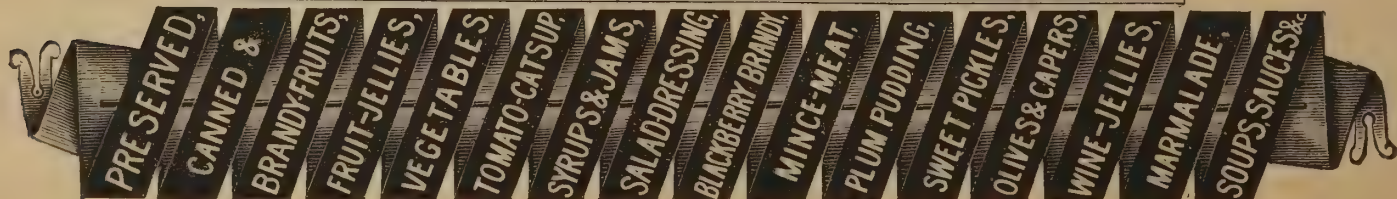
MANUFACTURING PURVEYORS
Established 1847

ALIMENTARY PRODUCTS
ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS.
GORDON & DILWORTH
563 & 565
TABLE DELICACIES
GREENWICH ST.
NEW YORK
OLIVES, CAPERS, CATSUP, SALAD, MINCE MEAT, PLUM PUDDING, &c.

CHOICE & DESSERTS
OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism, Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

3 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

75 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBSAND
PRIVATE FAMILIES

Beadleston & Woerz

291 W. 10th St. New York.

Orders by Postal Card
promptly attended to.

LEA & PERRINS' SAUCE.



Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

FAC SIMILE OF THE LABEL OF

THE BEST SCOURING AND CLEANING SOAP
IN THE WORLD.

Costs as much to manufacture as Sapolio, yet sells at about half the price (\$2.75 per box of 72 cakes). Can be retailed for as much with equal or better value to the consumer, although it is generally sold at 5 cents a cake. Cut this out and ask your Jobber to send you a box of *Pride of the Kitchen*. It is worth trying.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

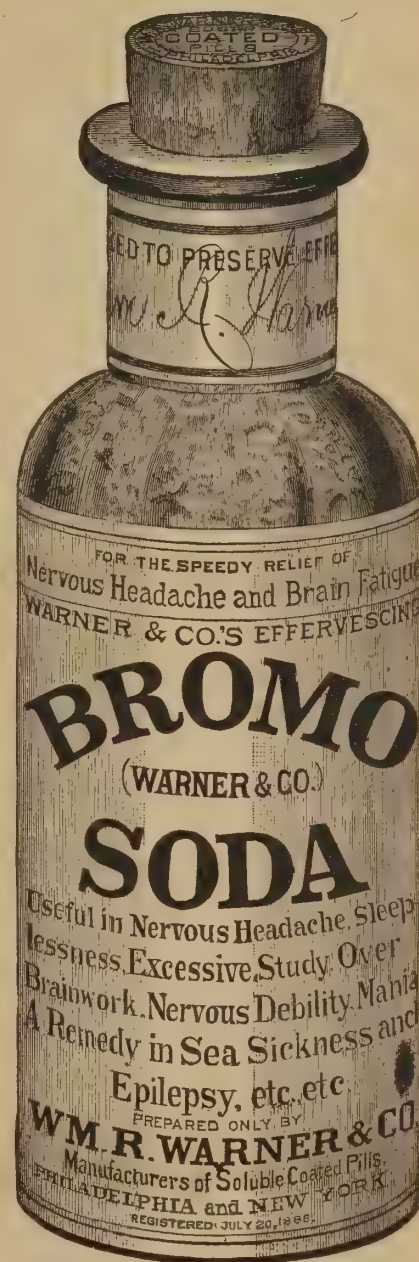


Sura Cura

A CURE

FOR

Sick and Nervous HEADACHES.

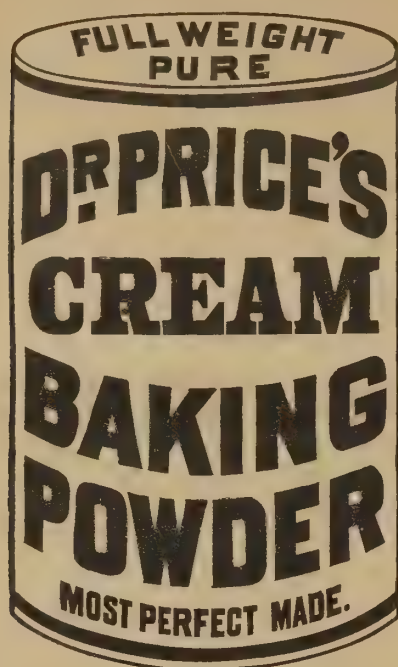


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.
PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

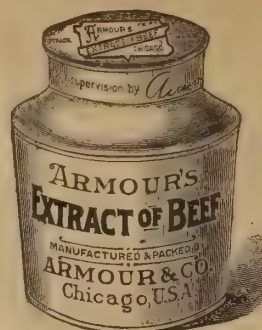
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
 SOUPS, SAUCES,
 DELICIOUS

BOUILLON,

And strongly endorsed
 by the Medical
 Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
 ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
 Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 22.

NEW YORK, THURSDAY, MAY 30, 1889.

WHOLE No. 118

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Champagne.....	256
Domestic Dietetics.....	257
Editorial.....	253
The Beef Controversy; Book Infection; Food and Folly; Black Snow; A Glut of Oranges; Avoidable Risks of Typhoid.	
Filtering Drinking Water—Continued.....	254
Flowers for Dinner.....	257
Olive Oil.....	256
Pig and Pone.....	254
Sponges.....	257

THE BEEF CONTROVERSY.

The uneasy gentry who during the past few months have been exerting themselves so vigorously to overthrow the Western dressed beef industry and the Constitution of the United States, failed to make the impression they aimed at, only a very few State Legislatures having been weak enough to comply with their wishes. Possibly the thwarted schemers may find some consolation in the fact that a committee of the United States Senate will continue during the summer the investigation of the "beef combinations," which, it is claimed, manipulate the meat markets of the country to the detriment of the public. Considering how long the same committee has been at work and how little light it has thrown upon the existence of anything radically evil in the subject of its investigations, it would seem to be a useless waste of the public funds to continue it in so fruitless a quest. The only outcome of their inquiries thus far has been to set forth in more brilliant light than before the advantages which the whole community enjoys through the improved processes and cheapening methods brought into action by

the enterprising men whose combination of capital has made them such objects of spiteful envy. At all events, we trust we have heard the last of the appeals for unconstitutional State interference with which our Legislatures have been belabored during the past few months. If there is anything that needs remedial legislative action, Congress, under its constitutional power to regulate commerce between the States, is the only body that has authority to interfere, and the fact that it has not already done so is *prima facie* evidence of there being no legitimate need for such interposition. The subject is well summed up in the following editorial remarks of the *Commercial Bulletin* of this city: "The Congress of the United States has presumably learned something on the subject of discriminating trade legislation since it passed the anti-oleomargarine law, and will be less likely to be betrayed into another such blunder on the appeals of one interest desiring protection against another. The States, with two exceptions, have shown their disinclination to yield to the appeals made to them for improper legislation, and have left to Congress whatever regulation is deemed necessary. Conditions are favorable to fair treatment of the question on its merits if the Senate investigating committee develops anything that really calls for Governmental interference; but if this inquiry reveals only a continuation of the selfish contest between competitive interests and the petty quarrel between rival Western and South-western cities desirous of advancing their own interests and injuring their competitors by the intervention of Government, then the sooner and the more thoroughly the nature of the contest is exposed the better, for the more fully it is understood the less danger there will be of the success of the effort to pervert the powers of Government to private selfish ends."

BOOK INFECTION.

In many of the European cities extensive investigations are making to prove or disprove the infectiousness of books handled by the sick, such as must of necessity frequently occur in large circulating libraries. The editor of the *Christiania* (Norway) *Sanitary Journal*, in commenting on the subject, remarks that it is the universal pastime of invalids and convalescents to read or look over books, which, if not procurable at home, are brought from some library. Even children are fond of looking at picture books, and the editor relates the following personal experience: "In 1846 an eight-year old brother of my wife was taken down with scarlet fever and died. During his illness he frequently amused himself by looking over a large picture book. This, together with several other of his useful playthings, was packed away in a trunk after his death. Twenty-six years afterward, in 1872, a sister-in-law of mine journeyed across the channel to England, where I was then residing, and with her came the chest and the picture book. On the second day the chest was opened, and the book presented to my two-year old son. Within the next two weeks the little fellow was

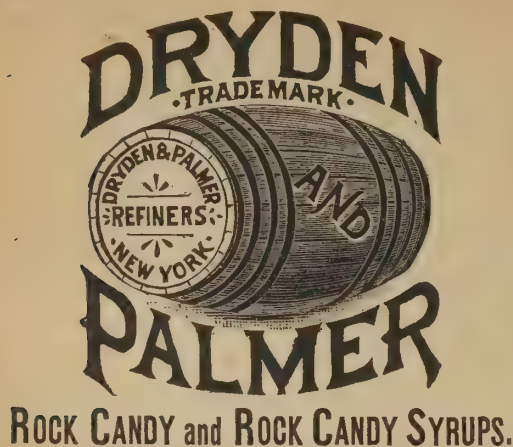
taken down with scarlet fever. The doctors who were called in consultation wondered how the disease was contracted, as there had been no scarlet fever in the town for years. The circumstances of the book were called to mind, and the indications were clearly that the twenty-six year old book had retained the poison and communicated it to the child." The process of disinfection now in use in Denmark and Norway, in many of the circulating libraries and book stores, is a good one, and it is claimed to disinfect the books without damaging them in the least. It consists in placing the books fully opened out in a suitable compartment, and subjecting them to dry hot steam at a temperature of over 100 deg. C. for several hours.

FOOD AND FOLLY.

A recent writer on hygienic dietetics says that "the temperature of food and drink should be as nearly as possible the same as that of the blood. Iced water and ice cream are injurious to the stomach, and very hot tea or coffee, especially if followed quickly, is equally injurious." This, as the *National Druggist* vigorously puts it, is a fair sample of the "rot" which passes current as "science" with a certain class, and were it not that it is being copied into journals of some standing, and which should know better, would scarcely be worth noticing. "The idea of drinking water warmed to 98.4° Fahr., "as nearly as possible the temperature of the blood," or coffee or tea cooled down to this most mawkish of temperatures, is too absurd. Ice water and ice cream, like everything else good, become injurious when used injudiciously, but when taken in moderation are not only harmless, but among the greatest of healthful luxuries. The same may be said of hot tea and coffee. Of course it is harmful to "gulp" these articles down, cupful after cupful, as many people do, but it does not need a professor of hygiene and dietetics to tell us that.

BLACK SNOW.

On April 3d there was a general fall of snow throughout the northern part of this State, accompanied in one locality with some phenomenal conditions. For a short time the snow while falling was of a dark color, covering the counties of Lewis, northern Herkimer, southern Franklin, and the north-western part of Essex, and probably Hamilton. From the reports of forty-nine towns it seems that the "black snow storm" extended over a distance of 112 miles in a north-east direction, and southward some thirty miles. The "black snow" fell soon after the passage of the storm centre which crossed the State on the 3d. The snow of darkest color fell, nearly central, over Lewis county. At Copenhagen a panful of snow, when melted, gave a teaspoonful of very fine ashes; and at Saranac Lake about one-half inch of black snow fell over the white snow which preceded it. A specimen of the black snow was examined microscopically, and it appears that the sedi-



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

ment collected is finely-divided earth. A comparison of this sediment with that from ashes shows that the snow was not discolored by ashes; which is further confirmed by the large number of vegetable fibres in the black snow, the absence of forest fires to the windward of the region affected, and the close resemblance of the black snow sediment to an artificial sediment made from humus procured near the office of the New York Central station. These facts, together with those which obtained at the time of the passage of the storm centre, made it probable that soil was excavated by some whirlwind, and, after being scattered by the storm, it was deposited over the counties mentioned as the snow was formed.

A GLUT OF ORANGES.

We observe that the newspapers of Florida are calling a halt in the orange planting enterprise in that State. The crop just harvested, which amounted to upwards of three millions of boxes, was all disposed of, not at the most satisfactory prices, but, nevertheless, went into consumption. The orange trees are in blossom and the present prospect is good for a crop at least fifty per cent. larger than the one just harvested. This means upwards of six millions of boxes of Florida oranges. The *Times-Union* estimates that in ten years from to-day, Florida will produce a box of oranges for every man, woman and child living in the United States, say nothing of the quantities that will be produced in California, Louisiana and Mexico. If these facts prove true, people planting orange groves for profit should take warning and investigate the condition of affairs before plunging into deep water. Of course, the above statement will not be heeded by speculators setting out orange groves for the purpose of "booming" real estate. The price at which oranges may sell ten years hence is of little interest to them.

AVOIDABLE RISKS OF TYPHOID.

Dr. Cyrus Edson, of the Board of Health of this city, is quoted by the *Sun* as saying that "typhoid fever is now getting on his robes as the fever king, and though he will not be in full power here till a later period of the summer, he distributes the germs at the opening of the season." The ravages of typhoid are constantly increasing in this city, though Dr. Edson says that it is an easily preventable disease and never infects the atmosphere. He says that the causes of it are polluted water, milk, or meat, and that ice from infected water is a source of danger. It is due to a germ, which can be avoided by refraining from the substances in which it exists. In view of the statements made by Dr. Ed-

son, it is necessary that the Health Board of New York should be vigilant in the performance of its duties at this time of the year.

PIG AND PONE.

AN EDGECOMBE COUNTY (N. C.) BARBECUE.

Editorial Correspondence American Analyst.

BALTIMORE, MD., May 24, 1889.

Barbecues are generally understood to be jovial social gatherings, at which one of the principal features is the roasting of a whole animal. An Edgecombe Co., N. C., barbecue is all that, but in addition it has such peculiarities of its own, that a description of one which it was the writer's good fortune to attend, on May 14th, will be interesting reading. The word barbecue is supposed to be from the French *barbe a queue*, from snout to tail. Edgecombe County is one of the north-eastern counties of North Carolina, being the third county south of the Virginia line and the third west of the head of Albermarle Sound. Tarboro, the county seat, situated on the Tar River, about eighty miles south-west of Norfolk, with which place it will soon have direct railroad connection, is now reached by a fifteen-mile branch from Rocky Mount, on the Wilmington & Weldon division of the Atlantic Coast line, giving it fair railroad facilities and connections to Richmond, Washington and New York, besides which it has two other branch roads running east. It lies in a low, gently undulating plain, scarcely twenty feet above the sea level. Its climate resembles that of France and Italy. The near approach of the gulf stream to the Eastern coast helps to moderate the cold, the average annual temperature of this part of the State being 61 deg., varying from 77 deg. in summer to 44 deg. in winter. The plantations about Tarboro show the effect of this climate in extensive cotton fields, yielding from one-quarter to half a bale to the acre. The celebrated Scuppernong grape grows in abundance here. Situated to the west of the track of Atlantic cyclones, and sheltered by high mountains from the western tornadoes, this part of the State enjoys almost complete immunity from these destructive visitations. It also lies in one of the two areas in the United States where consumption is unknown. The soil is sandy and loamy, of tertiary and quaternary origin, with occasional pine barrens and large tracks of very fertile alluvial soil interspersed. There is also considerable swampy land, with a black peaty soil of great depth and inexhaustible fertility. These soils resemble those of the prairies of the North-western States. Thus situated, it may readily be seen that Tarboro should be a desirable place of residence, as well as a profitable place for merchants. It is both. Wide and level streets, well shaded by elms and red oaks, with great taste manifested by the residents, both in the structure and ornamentation of the houses, as well as in the shrubbery and floral aspect of the surrounding grounds, it bears a striking resemblance to New Haven, the Elm City. With just enough manufacturing to give it a bustling appearance, with busy stores filled with buyers from a large surrounding country, the main street is a relief from the peaceful quiet of the streets more specially reserved for residences. It is to this Edgecombe County, of which Tarboro, just described, is the shiretown, that the barbecues referred to at the outset are peculiar. The one now described was given by the Board of County Commissioners at the County farm, some five miles from the city. A pleasant drive between broad fertile fields and tall stately pines soon brought us to the main building of the farm, the residence of the genial superintendent. A look at this gentleman and his kindly faced wife is enough to assure one that those under their care are not starved nor maltreated, and the appearance and condition of the inmates abundantly corroborate this impression. The majority of those provided for here are colored, and nearly all are either idiots or cripples. The company invited consisted of the County Commissioners and all the

principal county officials, and a more courteous and unaffected body of gentlemen it would be difficult to find. Never having seen such a barbecue, the most interesting thing to the writer was the method of preparation. This was as simple as it was original. Three pigs, weighing from twenty-five to thirty pounds apiece, having been thoroughly washed and split from end to end, were placed on poles across a hot wood coal fire with the flesh side down, and carefully tended by an old colored man who had evidently barbecued pigs for several generations. No flame was to be seen, but hot embers were from time to time added to those in the pit. When the flesh side was thoroughly done, the pigs were turned upon their backs, and after nearly all the grease had been pretty well tried out, and the flesh was well cooked, a basting, consisting of vinegar, salt and black and Spanish peppers, was carefully applied to the inside and cooked in, the thick hide underneath retaining all the juices. Some six hours of this cooking finished the pigs, which were then hashed up and served along with that other favorite southern dish, corn pone. There were other meats, such as chicken, beef and ham, but the guests had evidently come to eat barbecued pig and faithfully stuck to that. There was also splendid wheaten bread, but the pone was the favorite. The guests were assured that barbecued pig never made any one ill, and those who were satisfied by this assurance or by their own previous experiences, did ample justice to the favorite dish of the day, some filling their plates as often as four times. When seen several hours afterwards, none seemed to suffer any ill consequences, excepting perhaps from a slight intrusion of the stomach upon the space allotted to their breathing apparatus. It may be added for the information of Northern readers that not a drop of anything to drink but water and lemonade was to be seen at the festival, and that the whole feast was a remarkable success. Gastronomically, after this our first experience, we can pronounce an Edgecombe County barbecue to be a decidedly toothsome experience.

L.

FILTERING DRINKING WATER.

THE INADEQUACY OF THE AVERAGE FILTER TO PURIFY THE LIQUID.

(Continued from page 242.)

The most satisfactory way of using this for testing was to employ the single porcelain cylinder, within the usual casing, attached to a hydrant system and with a pressure of water varying from six to fifteen pounds. Even with the highest New York hydrant pressure the flow is only drop by drop. It can be used to siphon water out of a jar, and in this way it works nearly as rapidly as when attached to the hydrant in the basement of a house in the centre of this city. By a porcelain cross tube, sold in Paris, two or more cylinders can be siphoning at the same time into the same tube. To avoid risk of contamination, I used for siphoning a single cylinder, to which a bent glass tube was attached by a tightly-fitting piece of rubber pipe, all parts having been sterilized as well as the water by which the flow of the siphon was started. I got germ-free results regularly by this means in seven trials with two cylinders used separately; but, in order to insure this, all the precautions mentioned are necessary as, in the water siphoned in domestic use of these cylinders, bacteria of various sorts are found, yet they are possibly contaminations due to the inherent defects of all such joints as are used. So I have devoted more time to testing these when directly connecting with the hydrant, as very slight precautions are needed, in their use with faucets, to eliminate all chances of contamination. My first thirteen trials of this filter used in this way were under less satisfactory conditions than the fourteenth and those following, as the former were in a laboratory where the available water came under not much more than twenty feet pressure from a tank, and I was not

able so well to control the constancy of this pressure as I was during the later trials. My first sixteen tests of various ones of these cylinders gave sterile water. Then, attached to a basement faucet, with a direct flow from the hydrant under a pressure never exceeding fifteen pounds (except that on Sunday nights it was for a few hours three pounds higher), the filter, after several days of intermitting use, gave over, 3,500 bacteria in each cubic centimetre and all the water examined (two samples per day) for four days showed an increasing number of bacteria. On the third and fourth days after the first passage of bacteria through the porcelain wall of the cylinder the number in each cubic centimetre varied above and below 400,000. The filter was then sterilized by steaming for five hours, as was also done between the second and third series of tests. These tests bore out the results of the former observation.

That these results show that average specimens of this substance have the inherent defect of all filtering material, though in a much less degree than all others, seems to me unquestionable. That the bacteria did not get through owing to some defect in the particular filters which I used is evident from the fact that the cylinders employed (and which were selected by me in Paris as perfect), through which the bacteria passed, are still free from any appearance of a flaw which could explain the passage of these micro-organisms. The same filter which (first of those used in my tests) allowed bacteria to pass through, has repeatedly filtered water free from all bacteria for a few days after each of the several sterilizations which it has since undergone. In three following series of trials of this identical cylinder, bacteria have gone through its walls in from three to four days after each sterilization. They have also gone through a second perfect cylinder with which I experimented. That the bacteria were not introduced by careless manipulation is evident by reason of their number, and because of the fact that, after the filter was sterilized, they were found in each case at a particular phase of each series of tests with the intermittent pressure which only for a few hours once a week was as high as eighteen pounds, and was usually as low as eleven. At the beginning of each series of tests the filter was sterilized. The bacteria was not splashed in from the sink below, for, in the first place, all splashing failed to carry in any, as revealed by testing the water filtered after such experimental attempts to throw water in, and none had ever multiplied inside or even remained there during my first thirteen tests, when there was much splashing in the common sink. During my later trials there was no chance of such contamination.

To answer fully in advance any such objection, I will state that after I got the enormous number of over 400,000 in each c. c. flowing through the porcelain, and had sterilized the cylinder, water was allowed to flow through it and plated, but was sterile in that no bacterial colonies developed. Then, while the filter was in action, I introduced with a sterile needle (from below through the aperture into the inside of the cylinder), and, touching the needle to various parts of the surface, deposited over it peculiar bacteria from a pure culture derived this winter from the water of one of the northern lakes which I examined during my investigations as biologist for the Syracuse Water Commission. The colonies of this bacillus, when growing on gelatine plates, have a peculiar odor, a distinctive green color, and other characteristics which clearly differentiate them from any bacteria ever found in the Croton water. The water flowing out all the while, or rather dropping out, was, three minutes after the introduction of these, collected in sterilized test-tubes and was found to contain 175,000 of these peculiar bacilli in each c. c. After seventy-five minutes there were only fourteen bacilli in each c. c. of the water then flowing through the porcelain, and two hours later, and during the next day, there were no bacteria of any kind in the water which again later in the series showed that the Croton bacteria had passed through with it. This proves that the increase in the number of the bacteria was not after the water

had passed through the substance of the filter. These facts, together with the extreme fragility of this rebaked porcelain, and the exasperating slowness of the flow, which does not improve on long trial, have caused me to modify the recommendations which I gave among my colleagues and others after my first tests of these filters. As regards rapidity of flow and non-fragility, a notable improvement over the cylinder form (which I have just spoken of) is afforded by a series of two or more flat plates of porcelain similarly prepared. In the Varrall-Brise pattern these porcelain plates are backed by carbon plates of the same shape and size and the filter yields sterile water for a long time under gentle pressure, although I do not consider the carbon an advantage. The further such filters vary from the simplest type the greater is the likelihood of the introduction of contaminating bacteria into the filtered water.

Of the various forms of filters used upon faucets, I feel bound to warn against those rotating within an outer shell. Whether packed with charcoal, sand, or any other material, and even if the water go through the filtering mass and not around it, the filter has the great drawback of various irregularities and depressions on the interior which retain organic matter and allow bacteria, both harmful and harmless, to increase in it and maintain their vitality for a longer time than in ordinary filters. This conclusion I am led to by the results of various experiments and observations. In a recent epidemic in a large New England city this form of filter appeared to play an active part in continuing the infection; for cultures, in every respect like those of the germs of typhoid fever, were derived from several of these suspected filters by Dr. Prudden and others. I have found that the typhoid bacillus lives much longer in the sediment collected from filters than in pure water. At its best, this filter cannot remove the bacteria from water, and they multiply in the charcoal or sand, so that, even after several minutes of washing out by the stream flowing from the hydrant, the water coming through this filter may show several times as many as are in the water directly from the hydrant. To avoid waste of time in repetition, I will refer to the facts observed with the sand filter, as the mechanical action of the filtering mass is identical in both. The sand filter, for attaching to faucets, is perhaps the simplest and most popular used. It consists of a cylinder of like breadth and length, being not quite three inches long. It screws by either end upon ordinary faucets, and its interior is filled with crushed silica or fine sand, kept in place by wire-gauze at either end. I have adapted several much larger without securing more satisfactory results. Taking a new one, sterilized throughout, allowing a fair stream of water to flow through it when attached to a faucet, and at the same time taking water directly from the same supply-pipe from the hydrant by means of another faucet by its side, and under the same conditions of pressure and outlet, except that there is no filter upon the second faucet, the water is seen to flow in a free stream nearly as large as from the unobstructed faucet, while the Pasteur filter, attached to the same supply-pipe and with the same pressure, allows the water to come at the rate of only a few drops each minute. Even with a gentle stream through the freshly sterilized sand filter, very few of the bacteria are arrested. With very fine sand in a cylinder holding three times as much as the ordinary one, and a very small stream flowing, I have observed more than fifty per cent. to be retained. This result is seen only in the first use of an absolutely sterilized filter.

Speaking of the tank variety of sand filters, it was shown that moistened sand favored the increase of bacteria brought into it by Croton water which had flowed through. In the sand or other granular contents of these filters attached to hydrants the same multiplication takes place when the water has for some time ceased flowing, and this increase is at a more rapid rate than in water standing in a clean vessel by the side of the filter. The first flow in the morning, for instance,

after the filter has remained unused over night, shows a much larger number of bacteria than the hydrant water then contains. Even after the water has flowed for several minutes for the purpose of washing out the filter, the bacteria are in excess over the number in the original water. After such a filter has had the hydrant steam running through it long enough to wash out all the germs that have resulted from the increase (which complete cleansing is not always producible), the bacteria in the water may appear nearly the same in number as in the hydrant water, varying slightly either above or below. While such filters are worse than useless from a bacteriological point of view, they are good strainers when not clogged by too long use without cleansing. As strainers they are less troublesome than flannel bags (which are as safe as these sand filters for use with suspected water, provided that they are removed at least once a day to be disinfected by boiling). The act of reversing this popular sand filter does not cause the removal of the organic matter upon which the bacteria can be nourished. Only the loose outer portion is thereby removed. Such a sand filter is a safer strainer when never reversible, and it should be cleansed at least once a day when needed at all. Powdered magnesia and other granular substances used instead of sand in the style of filter just described have no superiority over the easily cleansed sand.

(To be continued.)

WHY?—It has been found in experiments at Leipzig that skin grafted from a white to a colored person becomes gradually black, and that black skin grafted upon a white person in time turns white.

EXPLOSIVE MOLASSES.—Petragit is the name of a newly invented German explosive, which is said to be three times as powerful as nitro-glycerine. This powerful explosive is made from molasses.

CHRISTIAN PROGRESS.—It is stated that a German artillery officer has succeeded in making a new explosive from carboic acid; a shell filled with this material possesses a power hitherto unattained. Experiments made with these shells, thrown from mortars, have all, it is stated, proved highly successful.

STOVE VARNISH.—A brilliant black varnish for cooking and gasoline stoves: Asphaltum, two pounds; boiled linseed oil, one pint; oil of turpentine, two quarts. Fuse the asphaltum in an iron pot, boil the linseed oil and add while hot; stir well and remove from the fire. When partially cooled, add the oil of turpentine. Some makers add driers.

TABLE DECORATION.—A neat device for the setting of tables for small parties is to have the table round, with a low basket of flowers in the centre and decoration of smilax reaching out to the edge in each direction, like spokes of a wheel. Each guest has the space between the outer ends of two of the spokes.

A PRETTY NOTION.—At fashionable luncheons now for ladies, egg-nog or some similar beverage is served in the skin of an orange. The pulp and juice are scooped out through an opening made in the top of the fruit, the mixed drink is poured in, and the opening closed by the replacing of the piece of skin cut out. Then it is tied with a ribbon. The beverage is drunk by means of two straws, which, tied together with a bit of ribbon, go with each orange.

ELECTRIC TANNING.—The *Shoe and Leather Review* reports the formation of a company with a capital of \$800,000 in Chicago and New York for tanning by electricity, under a process said to be in successful operation in Sweden, where the invention was discovered. It is claimed that by the electric method leather can be made in four days, while the time usually consumed in this operation now averages five months. A tannery for operating by the electric process will soon be built either at Chicago or Boston, to be managed by a tanner from Sweden who is familiar with the business. Samples of leather said to have been tanned by electricity were examined by the editor of the *Review*, who states they were of good appearance and of sound material.

OLIVE OIL.

WHERE IT IS PRODUCED AND HOW IT IS PREPARED,
AND SOMETIMES ADULTERATED.

The first pressing of the olives yields the finest oil; but this oil, in its natural state, as it leaves the growers' hands, holds in suspension a variable quantity of the minute particles of the fruit, as well as some little water. In this state it is cloudy and turbid, neither pleasing to the eye nor in fit condition for keeping. New oil must be filtered, which is done by passing it several times through layers of carded cotton wool in a suitably arranged apparatus. The raw cotton must be absolutely free from all odor, and the oil in a perfectly liquid state. During the winter, it being the season when most of the olive oil is produced, it is necessary to warm it slightly, which is effected in a pan with a double bottom, or jacket, through which steam passes. If fire were used, the air might be overheated, and "cooked," which would spoil it. When perfectly bright and limpid the oil is pumped into tanks for storage, the tanks being usually built of solid masonry and lined with either marble or glazed tiles. These tanks will hold about 15,000 gallons of oil each. In the tanks the oil remains at an equable temperature, and during the hottest months is kept cool, which is a very important consideration. An erroneous idea is prevalent that fine olive oil is the result of some refining process which renders it fit for consumption. This is not so. Fine oil is the product obtained by pressing sound olives. It cannot be improved by any refining process, and the only thing that can improve it is proper filtering. Olive oil is not like the juice of the grape, which requires a chemical process to transform the sugar it contains into alcohol in order that it may become wine. The oil is then ready made from the fruit, the utmost care having been exercised to extract it just as it was, bursting the cells within which the oil is enclosed. It is not to be supposed that all of the oil produced in any locality is of equal merit and excellence. Qualities vary even in the same locality, and hence the need of a careful selection in order to arrive at the highest possible standard of excellence. An olive farm famed for its product may one year make olive oil of splendid quality and the next year the reverse may be the case. The olive fly is very capricious in its ravages, and the warmer exposure of an olive plantation may lead to all the fruit being ruined by this fly, while not a mile away another plantation in a less sheltered situation may escape such damage. The same is the case with regard to frosts; severe, damp cold may injure the fruit in a low-lying locality, while close by, but higher up, the fruit may be uninjured. Hence, in selecting the finest qualities of olive, it is not by any means sufficient to know in what locality the oil has been grown. The ultimate test of quality is the palate, and to be a good taster of olive oil requires a nice, discriminating palate and long practice. Of course, if olive oil is of dark color, or possesses the least bad odor, it is condemned at once. But even when free from objection on both points, the palate may reveal some fatal defect, due either to the condition of the fruit or the process of expressing the oil, or else the oil may simply be made from an inferior class of olives, and therefore of a second-rate quality. If olive oil of very inferior quality, tainted and rancid, continues to be sold in America as being the very best and paid for proportionately, this can only be because consumers do not taste it in the proper way, by itself, before using it. There is no great difficulty in determining whether olive oil is pleasant to the taste or the reverse. But if in a salad dressing it be overpowered by fiery condiments, bad olive oil may often escape detection. Fine olive oil is not improved by age, like wine. But while inferior qualities become infinitely worse by keeping, the best Tuscan oil, properly kept, will retain its sweetness and freshness for fully two years from the time it was made. It may be remarked that fine oil undoubtedly retains its good qualities longer when it is exported in bot-

tles than in tin cans or casks. Occasionally new olive oil, when bottled early in the season, although most carefully filtered, will deposit a little sediment in bottles. The sediment merely consists of very minute particles of the fruit; though not pleasing to the eye, it ought to be generally known that this sediment has no importance whatever, and proves absolutely nothing against the purity or the excellence of the oil in question. Under the influence of cold, fine olive oil loses its brightness and turns cloudy; often, though it continues to be fluid, flakes are to be seen floating about, the appearance of which in bottled oil has sometimes given rise to unfounded suspicions. The effect of a low temperature is to separate, temporarily, some of the constituent parts of olive oil; hence the flakes. But this natural phenomenon is of no moment whatever; on warming the contents of a bottle in which these flakes are visible, it will be remarked that they disappear and that the oil resumes its brightness. Great scope for adulteration is offered in the number of cheap vegetable oils which can be profitably employed for the purpose, such as cotton-seed, ground-nut, sesame and colza oils. Of these, cotton-seed and ground-nut oils are probably most used, and in Italy cotton-seed oil. To check the practice, a customs duty of fourteen lire per hundred kilograms was imposed in Italy on this oil. Adulteration is not by any means confined to Italy. Seed oils of various kinds are largely imported as well as made in France. There are factories at Marseilles and Bordeaux where oil is extracted from African ground-nuts, *arabides*, of which there is an enormous importation. Not only is this oil used to adulterate olive oil, but it is said to be used to some extent as a substitute for it in packing cheap brands of sardines. In the United States it is a fact that olive oil, imported in casks, is here mixed with cotton-seed oil and retailed as pure olive. In Italy the finer qualities of olive oil are produced in the districts of Bari, on the southeast shore of the Adriatic, Umbria, in Central Italy, Tuscany and Liguria, the latter including the districts of Genoa and Porto Maurizio—the Riviera, it is generally called. The chief olive oil producing districts of France are Nice and Provence (Alpes-Maritimes, Bouches-du-Rhone and Var), the produce of Provence being frequently called Aix oil.—*N. E. Grocer.*

CHAMPAGNES.

AN UNJUST AND UNTRUE COMPARISON.

One of our large dailies has lent itself to an abuse of American wines in the shape of an interview with Mr. G. H. Von Mumm, one of the owners of the Mumm brand. After puffing his personal appearance, titanic proportions and brilliancy as a conversationalist, it puts these words in his mouth. We reproduce them that they may be fully answered:

There is one point upon which he is not an enthusiast, however, and that point is America as a champagne-producing country. He told a reporter the other day that he feared this country would never be celebrated for its champagnes. "I am told," said he, "that there are people here who inject carbonic acid gas into still wines by means of machinery, and call the produce champagne. Such practices are abominable, but they deceive only the ignorant. There are many reasons why your grape-growers cannot produce champagne, the principal one being found in the nature of the soil, which, as you know, has everything to do with the effervescent quality of the wine. In the Province of Champagne the soil is of chalk mixed with silica and light clay and oxide of iron in varying proportions. These properties in the soil give to the grape its effervescent qualities. So far as I have been able to learn, you have no soil of this description over here. Another cause of your failure to produce good wine is the youth of your vineyards and the fact that they are insufficiently cultivated. The older the vine, the better the wine: In a hundred years from now your wines will be better; in a thousand years, good. The vineyards in Champagne are divided into hundreds of very small tracts, each tract having its owner. There are no large vineyards under one proprietor. This fact accounts for

the careful cultivation the vines receive and have been receiving for hundreds of years. Then, again, champagne-making requires long experience and a large capital. The leading manufacturers have on hand in bottles and casks stored away in their cellars thousands of gallons of wines of former vintages. This they must have for "blending" purposes. If, for instance, the wine of this year should be of an inferior quality, we would blend or mix it with a wine of a previous year to give it the desired flavor. A different blend must be made for each market. In America you require a very dry wine, in England a semi-dry wine is demanded, while in Russia a sweet wine is the proper thing. To suit these varying tastes experience is required, as well as a stock of material to carry out its dictates. There is not, as many suppose, a very large profit in the manufacture of champagne. I am told that popular opinion places our profit at about \$10 a case. One dollar is much nearer the mark. There are seasons in which we lose money on every case of wine we sell. This happens when the vintage is inferior. In such cases we must take the wine from the producer whether we can use it for champagne or not, in order to retain their friendship and keep other houses from weaning them away from us. At the same time, because of those who buy our wines, we must keep up its quality by the use of old stock worth many times its weight in gold. The inferior wine we sell for less than it costs us to makers of claret and low wines. The last-named objections to America as a champagne country may be overcome, but the quality of the soil never. You cannot grow a wine in Champagne which will produce Madeira, nor can you produce champagne from grapes grown in Madeira. How, then, can you deem it possible for a man in California to buy a hillside, divide it into two parts, upon one of which he will produce champagne and upon the other Madeira? And yet I'm told they claim to do it."

Mr. Mumm ingeniously tries to convey the untruthful impression that all American champagnes are made effervescent by the addition of carbonic acid gas, while he knows perfectly well that there are several American champagnes which are made precisely as his wine is made, and in the case of one American brand, Arpad Haraszthy & Co.'s Eclipse, with better and more uniform results. He also retails the very old story about California soil, spiced up with the foolish remark that the effervescent quality of the wine depends upon the soil, when every child knows that the natural carbonic acid gas of champagne is the product of the saccharine matter it contains. Then a ridiculous fling at the youth of our vineyards is made to cover up the well-known fact that France was dependent upon our youthful but healthy American vines to replace their effete phylloxera-eaten vines. With an amount of candor, surprising from him, like a grain of gold in a heap of sand, he admits that the champagne manufacturers of Europe do not own vineyards, but depend upon small vine-growers for their supplies for blending, and that when they get inferior wines, as they frequently do, they blend them with better grades, but they all go in. He also admitted that these foreign champagnes are all doctored to suit the varying tastes of different nationalities. The subject of profits on such wines also received attention. A profit of ten dollars a case was strenuously denied, and the allegation that one dollar came nearer the truth is what we are supposed to be gullible enough to believe. How they can afford to maintain expensive salesmen with several thousands dollars a month for treating purposes, pay a heavy bonus to barkeepers on corks and other well-known extravagances on one dollar a case, is evidently like one of Dundreary's puzzles. His final allegation that in California men try to raise champagne on one side of a hill and Madeira on the other is too ridiculous to require notice. To raise such miserable stuff as Mr. Von Mumm admits he uses to blend for his champagne does not need much of a vineyard. Let our German friend take a trip to California and try to look at things as they are. He will conclude that California is large enough to enable us to have a crop of grapes somewhere in its large area that will not need skillful "doctoring" to make honest and non-poisonous champagne.

Subscriptions \$1 per year Now is the time to subscribe.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

May.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Brant, pigeon, chicken, duck, turkey, goose, snipe,

FISH.—Anchovy, bass, catfish, cod, eels, clams, flounder, halibut, herring, lobster, mackerel, mussels, perch, porgie, rock-fish, salmon, shad, shrimp, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Artichokes, beans, carrots, garlic, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, water cress, radish, rhubarb, sea kale.

PRACTICAL RECIPES.

OMELET.—Beat well in a basin the yolks and whites of six eggs and two tablespoonfuls of cold water (the latter will dilute the eggs and make the omelet more delicate); then add half a teaspoon of salt, a quarter of a teaspoon of ground black pepper, a teaspoonful of chopped parsley, half a teaspoon of chopped onion, and an ounce of fine butter cut in small pieces; mix well with a wooden spoon; dissolve in the omelet pan two ounces of butter, then tilt at once the beaten up eggs, etc., into it, inclining the pan to the handle for an instant; then shake the omelet into the center, turn up the right and left edges, and fry quickly about five minutes; the exact time cannot be given, as it will greatly depend on the force of the fire and the size of the omelet.

OYSTERS A LA POULETTE.—Put two dozen nice large oysters to cook in their own liquor, allow to just come to boil, or as soon as the oysters are plump, remove (having salted them in the liquor). Skim the liquor thoroughly, add an ounce of butter, half a pint of rich milk and a tablespoonful flour (first stirred smooth in a little of the milk), and a squeeze of lemon juice, more or less as you like. Let come to boil, and just as you remove from the fire add two eggs, well beaten, and a little chopped parsley; pour over the oysters and send to the table.

ASPARAGUS CREAM SOUP.—Take a bunch of asparagus and boil it till very tender; cut off the heads, press them through a sieve; put the tender stalks into a colander, and mash as much as you can of them through. Add a quart of sweet milk and a lump of butter, or half milk and half cream; season with pepper and salt; thicken a little with flour and water if desired; boil up and serve with dice of toast.

TROUT.—Scale, gut, clean, dry and flour; then fry them in butter until they are rich clear brown; fry some green parsley crisp, and make some plain melted butter; put in one teaspoonful of essence of anchovy and one glass of white wine; garnish, when the trouts are dished, with the crisped parsley and lemon cut in slices; the butter may be poured over the fish, but it is most advisable to send it in a butter tureen.

STEWED BEANS.—Boil them in water in which a lump of butter has been placed; preserve them as white as you can; chop a few sweet herbs with some parsley very fine, then stew them in a pint of the water in which the leaves have been boiled, and to which a quarter of a pint of cream has been added; stew until quite tender, then add the beans and stew five minutes, thickening with butter and flour.

STRAWBERRY ICE CREAM.—Mash a cupful of sweet strawberries with enough powdered sugar to make them into a thick syrup, and let them stand for a while; make

a half-pint of custard, with a cup of milk and one egg; let it cool, and to it add one pint of sweet cream, sugar and vanilla. Put this into the freezer; pack and freeze till it is like snow; open the freezer, add the strawberries and freeze till stiff; take out the dasher, pack, and let it stand for an hour, when it should turn out in a solid mould.

LEMON CAKE.—One and a half cupfuls sugar, one cupful butter, two and a half cupfuls flour, five eggs (yolks and whites beaten separately), four teaspoonfuls sweet milk, two scant teaspoonfuls Horsford's baking powder; bake in layers. For Jelly—One coffee cupful sugar, two tablespoonfuls butter, two eggs, juice of two lemons; beat all together and boil till it is like jelly; oranges may be used instead of lemons.

LICORICE ROOT.

WHERE IT COMES FROM, AND HOW IT IS PREPARED.

Nearly three million pounds of licorice root arrived at the port of New York during one week, recently, from Smyrna. The largest share of licorice now comes from Asia Minor, one American having almost a monopoly of it, and having branches for manufacturing the extract in this country. Large quantities of licorice are imported into the United States at a heavy expense of import duties. About a year ago it was settled beyond doubt that the soil and climate of California are perfectly adapted to its production. Licorice is prepared like horse-radish, by means of root slips, which are removed from the main root. The soil must be well fertilized and thoroughly broken to the depth of three feet to obtain the best results. The great depth is necessary to encourage the roots to grow downward to escape the intense heat, not only of one, but of several hot summers, as it takes three or four years to perfect the roots for market, during which time the plant must receive constant and careful cultivation with the prong hoe. Lay off the rows two feet apart, and after cutting the root slips into sections of five or six inches, plant them in vertical holes made with a dibble, sixteen inches apart, observing to thrust them several inches below the surface, and cover over. As the growing season closes each autumn, the stems should be cut down and removed, and a liberal coating of manure composed with rich hammock (top) soil. If the plants have been well cared for, the roots may be large enough in three years to harvest for market, though four years is not uncommon. Harvesting is quite a tedious job, and on account of the depth—two or three feet—has to be done with a spade. When dug, the side roots, used for propagation, are cut off, and the main roots are washed, dried and tied in convenient-sized bundles.

FLOWERS FOR DINNER.

FLORAL DECORATIONS DISPLAYED AT FASHIONABLE
LONDON DINNERS.

The following extract from the *London Confectioner*, of May, gives some novel notions relative to dinner table adornment:

There was a charmingly decorated table in Bruton Street a few nights ago. The flowers were flame colored tulips, spiraea and pteris fern. In the centre was a large silver cup filled with these flowers, and at the base was a star-shaped mound of the same, in each extreme point of which was a spiraea. Silver candelabra stood on either side of this, and at each end were silver cups, and around their bases were circles of the same flower. The effect when lighted up was very light and unique. Carnations and mignonette will be very much in favor again for table decoration. Another table was very uncommon indeed, and must have been very costly, as the flowers used were entirely of the finest and largest calceolaria and palest hue of heliotrope, mignonette and begonia leaves, arranged in dif-

ferent shaped wreaths; but the smell of the heliotrope was rather overpowering. Color tables will not be much affected this season. I must not forget to notice a very quaint dinner-table in Cadogan Square. The centre was of flame-colored plush. This was arranged so as to look like two tiers by the plush being put over two pieces of wood, long in proportion to their width. A brass lamp with many branches stood on the higher portion of it, the lights being seen through ruby glass. Quaint and uncommon orchids and tropical blossoms were used with colored leaves, and were placed in quaint receptacles. The tablecloth was entirely of Chartreuse green silk, which was plaited in wondrous folds. In the centre was a large round glass dish, with a hanging border of maidenhair fern, and in the middle of it were violets arranged in circles and piled high. The outer circle was the dark Russian, the second the grey Neapolitan, and the middle white. Down the sides of the tables, standing among the wondrous folds of the silk cloth, were small white glasses filled alternately with Russian and Neapolitan violets. Before every plate were arranged alternate bouquets of them, and at the corners of the table they were arranged in crescents; little lamps in the shape of cacti were dotted about on the table, and long sprays of variegated creepers were twined around and among them. Japanese monsters and dragons in iron held curious fruits. No metal but iron appeared on the table in the way of ornament. The carafes were in the shape of curious reptiles. Salt-cellars shaped as goblins held the salt in baskets on their backs. Oriental plates were used both for dinner and for dessert. The room was lighted by iron hanging lamps, shaded with silk the same color as the centre-piece. At a luncheon at a very *chic* house, the table was decorated with violets in shades from purple to white. At a very small dinner I saw for a centre-piece three old-fashioned silver decanter-stands placed together to look like a triple basket, filled with white narcissus and fern, a light handle stretched across made of ribbons and bows.

SPONGES.

RANSACKING THE BOTTOM OF THE SEA TO FOSTER
HUMAN CLEANLINESS.

Sponges are found only in a few localities on the earth's surface, and the supply does not nearly equal the demand. A very few men have it in their power to corner the sponge market, but they have never done it yet, and can be depended on not to, for the reason that they already have as much of the world as they care to use. There is no mercantile business known in which sales are so certain with so little effort on the part of the dealer; where overstocking and dull markets are so rarely known, or where the profits acquired are so very generous. In America there are only six firms that are engaged exclusively in the sponge trade. Five of these are in New York; the sixth is located at Chicago. The best sponges are found in the Grecian Archipelago, in water as shallow in some cases as forty feet, and ranging from that to depths below any known soundings. The deeper the water the finer and more expensive is the product found. The Grecian goods are known as silk sponges, and grade in price from \$2 to \$100 a pound, a range which is accounted for by the almost limitless variety in texture, size and shape. To just what kingdom a sponge belongs there seems to be no settled opinion. The formation is the product of myraids of small insects that gather the floating particles found in the ocean and build the fungus-like growth, much as coral reefs are built, attaching it to any substance they find—a rock or the sunken timber of a long-wrecked vessel. The early stage of this strange article—vegetable, mineral or animal—closely resembles a mat of cobwebs, and only gains strength, size and solidity in the passage of years. The Grecian government controls all the Mediterranean sponge fields, and leases to the firms engaged in the business such tracts

of water as are agreed on. The boundaries of these leased waters are fixed by floating buoys, and no lease is made for more than one year. The dealer hires his sailors and divers, who man the clumsy little sail boats and proceed to their employer's grounds. Here the captain in charge employs the water glass, scanning the bottom of the sea in search of sponges. When he finds a promising bed he directs the divers. These men are mainly natives, and work entirely naked. Each boat is provided with a number of stones weighing about fifty-pounds, to each of which is attached a coil of fine rope. The diver takes up one of these stones, poises himself on the gunwale of the boat, inhales a heavy draft of air and plunges head downward into the water, holding the rock ahead of him at arms length. As he reaches the bottom he drops the stone, which is hauled up into the boat by the rope. The diver gropes about until he can find the sponges, which he puts into a netting sack swung to his waist. Sometimes he doesn't find any, and then, after creeping about till his lungs warn him it is time to return to the surface, he springs upward, and, beating both hands and feet, struggles into the air. The long holding of breath soon leaves its mark in shattered health, and no diver can follow the business more than a very few years. However, he makes money while he is at it, often earning from \$100 to \$200 a week—an amount which he finds difficulty in spending on the barren hills and scattered villages of the archipelago. For the lower deeps divers in armor are employed, who are not so plentiful as the wages offered might warrant, and who exact almost any remuneration they want. One objection to the pursuit of sponge-diving is the frequent visits of sharks. Nearly a hundred men are lost every year in Mediterranean waters, chiefly by the voracious sharks, although a few of the divers not in armor are occasionally drowned. When enough sponges are gathered to fill the boat the crew proceeds to the shore, where the goods are spread out for inspection by the officers of the government, and the rate of the lease is fixed by the quantity of sponges secured. A field which yields nothing to the merchant costs him nothing but his time in searching it. After the government dues are paid the sponges are assorted carefully by experienced men, and are then strung with a needle and twine and hung in the sun on a row of low stakes to dry. Hydraulic pressure is then employed in packing the goods. When ready for shipment the bales resemble compressed cotton, excepting that they are enveloped in coarse cloth. The range in quality of these Mediterranean sponges is very great. Now and then, in very deep water, a small, close fibered sponge is found, very light in color, and when dry nearly the size of an orange. These command a price as high as \$50 a pound. The West India sponge is cheaper in price because poorer in quality. The fishing there is done by poles exclusively, the sponges being found in water not more than forty feet deep. They are known as sheepswool, grass, velvet, reef and yellow sponges. The first mentioned is the finest, and is quoted at from two to three dollars a pound, velvet at about one dollar, and grass sponges as low as ten cents a pound. The quantity imported into America amounts to a million dollars in value annually. Key West, Fla., varies her cigarmaking with a sponge fishing industry, from which nearly half a million dollars' worth of sponges are taken each year. The volume of the business increases yearly, as sponges are put to a greater variety of uses as time goes by, and this in spite of the fact that the price has steadily increased for the past ten years. Goods that could be bought for \$1.25 a pound in 1879 will bring \$2.75 to-day. A bad feature of the business is that the American people demand a light-colored sponge, which in very few cases is a natural color. To satisfy this desire strong acids are used to bleach the goods, the effect being very injurious not only to the sponge, but to the human skin upon which it is afterward used. In Europe sponges are used in their natural color, but the general public in America is not yet educated up to the proper understanding of this matter.

Another unpleasant fact, akin to this, is that hundreds of sponges used at hospitals are bought up by street fakirs after their days of usefulness there are ended, subjected to a chemical treatment supposed to clean them, bleached or dyed to suit the fancy of the vendor, and then loaded into baskets and offered for sale on the streets. Whether they are purged of all impurity is a question. Certainly the best sponge is the cheapest one in the long run, and the best can only be secured by paying an equivalent price.

TO REMOVE INK.—Ink stains are entirely removed by the immediate application of dry salt before the ink has dried. When the salt becomes discolored by absorbing the ink, brush it off and apply more; wet slightly. Continue this till the ink is all removed.

TO FASTEN WOOD TO STONE.—For a cement for fastening wood to stone, melt together four pints of pitch and one pint of wax, and add four parts of pounded brick-dust or chalk. It must be warmed before using and applied thinly to the surfaces to be joined.

STRENGTH AND MOISTURE.—The tensile strength of a wet rope is found to be only one-third that of the same rope when dry, and a rope saturated with grease or soap is weaker still, as the lubricant permits the fibres to slide with greater facility. A dry rope twenty-five feet long will shorten to twenty-four feet on being wet.

A PROFESSIONAL FAILURE.—"Can you recommend something as a spring tonic?" inquired a sallow dyspeptic, stepping listlessly into an aromatic pharmacy. "Yes," replied the druggist, "I have a number of excellent preparations. What is your line of business?" "I am a professional Faith-Curer."—*The Epoch.*

IMITATION CEDAR.—Cigar boxes are supposed to be made of Spanish cedar, but there is not enough of the wood grown for the purpose, and nearly all the boxes used by American cigarmakers are made from West Virginia poplar. The wood is sawed up into thin boards, and the cigarmakers dye them brown with cedar extract, which gives the proper color and odor.

WHOLESALE TREATMENT.—At High Ridge, near Stamford, Conn., there is a wife who is the mother of fourteen children, all living and none of them twins. All but two live at home, and these two, catching the scarlet fever, went home to be nursed. They gave it to the other dozen, and the whole fourteen were sick at once, and medicine had to be mixed in pitchers and bread pans.

LUCKY SHOCK.—The conductor of an electric street-car at Wheeling, W. Va., went on top of his car to adjust the running pulleys connecting it with the wire, and, slipping, grasped the wire to steady himself. He got a shock that laid him out senseless, and was about to be taken down for dead when his face was accidentally touched by the wire, and he was brought to life again little the worse for his experience.

POCKET TYPE-WRITER.—A type-writer, so diminutive in size as almost to justify the term "pocket type-writer," has recently been invented. Its extreme dimensions are four inches by three inches, and its weight less than four and a half ounces. Yet it carries all the characters necessary in ordinary correspondence on the inner edge of the revolving disc which forms the principal feature of the machine. The whole frame travels across the paper, which consequently may be of any size, and a roller, to which a spacing-check is fitted, secures an absolute straightness and evenness in the line of printing.

LOCALITY MEDICINE.—There is a phase of the patent medicine business that the world at large is not informed upon. That is the making and vending of what may be called locality medicines. All around this city, in the suburbs, men are making money in a small way by putting up curatives for the besetting ailments of their neighbors—for rheumatism, malaria, headaches, toothache, and dyspepsia. These medicines get fame in the town or country side, in which each is made, the local druggists sell them, and they are more sought than the world-famous medicines. The housewives advertise their virtues thoroughly, and without a cent of expense to the makers.

WORTH REMEMBERING.

Matthews & Pierson are the popular proprietors of the Sturtevant House, Broadway, cor. 29th Street, N. Y. It is one of the best in the city and a home-like, central place to stop.—*News.*

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. H. & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

KEITH'S

CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism, Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

3 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

75 William Street, N. Y.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York.



Will buy sufficient

Pearline

to do a large wash—
Clean a house,

or enough of both to prove to any woman its wonderful dirt-removing and labor-saving qualities. Costs almost nothing, but makes the dirt jump. Does it hurt the hands or clothing?—NO, it is harmless. Many millions of packages used every year—no complaints, but many women write: cannot get along without PEARLINE.

Caution

Peddlers and unscrupulous grocers are offering imitations which they claim to be Pearline, or "the same as Pearline." IT'S FALSE. PEARLINE is never peddled. 146 JAMES PYLE, New York,



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pittings, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

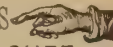
JOHN H. WOODBURY
DERMATOLOGIST,

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.



is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

C. O. P.

Cotton Seed Lard

ANTI-DYSPEPTIC.

Warranted free from Hog Fat.

PURE, WHOLESOME, ECONOMICAL.

For sale by all Grocers. Send for Illustrated Pamphlet, entitled

"SOME THINGS ABOUT LARD."

BRANCH OF

THE COTTON OIL PRODUCT CO.,
19 West 42d St., New York.

Subscriptions \$1 per year. Now is the time to subscribe.

GOOD ADVERTISING AGENT WANTED,

Address, ANALYST PUBLISHING CO., 19 Park Place, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.	Price including Regular American Price. Analyst.
American Magazine.....	\$3 00	\$3 25
American Rural Home.....	75	1 05
American Agriculturist.....	1 50	1 60
Art Amateur.....	3 50	4 00
Arthur's Home Magazine.....	2 00	2 00
Art Interchange.....	3 00	3 25
Babyhood.....	1 50	1 60
Ballou's Magazine.....	1 50	1 75
Bedford's Magazine.....	2 50	3 00
Cassell's Family Magazine.....	1 50	1 75
Century.....	4 00	4 25
Christian Herald, N. Y.....	1 50	1 50
Christian Union.....	3 00	3 00
Cottage Hearth.....	1 50	1 50
Country Gentleman.....	2 50	2 50
Current Literature.....	2 50	2 75
Demorest's Magazine.....	2 00	2 00
Family Story Paper.....	3 00	3 00
Farm and Fireside.....	50	1 00
Fireside Companion.....	3 00	3 00
Forum.....	5 00	5 00
Frank Leslie's Illustrated Newspaper.....	4 00	4 00
Frank Leslie's Popular Monthly.....	3 00	3 00
Galaxy of Music.....	1 00	1 25
Gleason's Home Circle.....	2 00	1 50
Godey's Lady's Book.....	2 00	2 25
Golden Days.....	\$3 00	\$3 00
Good Housekeeping.....	2 50	3 00
Harper's Bazar.....	4 00	4 00
Harper's Young People.....	2 00	2 25
Harper's Weekly.....	4 00	4 00
Harper's Monthly.....	4 00	3 50
Household.....	1 10	1 35
Housekeeper.....	1 00	1 25
Ledger.....	3 00	3 00
Lippincott's Magazine.....	3 00	2 50
New York Weekly.....	3 00	3 00
Our Little Ones and Nursery.....	1 50	1 65
Peck's Sun.....	2 00	2 25
Peterson's Magazine.....	2 00	2 00
Puck.....	5 00	4 50
Rural New Yorker.....	2 00	2 30
Saturday Night, Philadelphia.....	3 00	3 00
Saturday Evening Post, Philadelphia.....	2 00	2 00
Scientific American.....	3 00	3 25
Scribner's Magazine.....	3 00	3 00
Vick's Illustrated Monthly.....	1 25	1 50
Western Rural.....	1 50	2 00
Wide Awake.....	2 40	2 60
Yankee Blade.....	2 00	1 50
Young Ladies' Journal.....	4 00	3 50
Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

STEWART CERAMIC CO.,

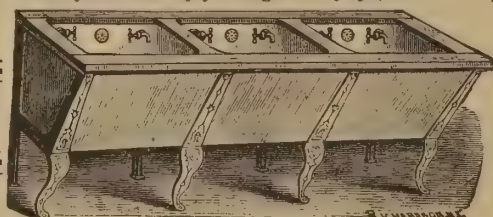
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTED MILK

THE ONLY FOOD

For Infants and Invalids

THAT CONTAINS ALL THE ELEMENTS OF NUTRITION, WITHOUT A SINGLE ADDITION.

MALTED MILK does not have to be cooked.

MALTED MILK needs no addition of milk, only to be stirred up with water, which can be done without the slightest fuss or trouble.

MALTED MILK will not spoil in hot weather.

MALTED MILK is always ready for immediate use night or day, when traveling or at home.

MALTED MILK does away with the danger of using sour or impure milk.

MALTED MILK is free from starch and cane sugar. All foods that have to be cooked contain starch.

Ask your physician his opinion of MALTED MILK, he knows all about it.

Price, . . . 50 Cts. | Large Size, . \$1.00

Extra Large Glass Jars for hospital and

family use, . . . \$3.75

These contain five times the quantity of the \$1.00 bottles.

A sample bottle will be sent free to any Mother or Invalid sending their address to

MALTED MILK CO.

RACINE, WISCONSIN, U. S. A.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose purious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

HOARDED COIN.—It is estimated by a mint official that there are still in existence somewhere in the country, tied up in old stockings or in the hands of curiosity collectors, over 100,000,000 of the old-fashioned copper cents, about 120,000,000 of copper-nickel cents, nearly 5,000,000,000 of the present issue of brown pennies and 25,000,000 of nickel three-cent pieces, and about 200,000,000 of the nickel five-cent pieces. The total value of these outstanding various coins is put in round numbers at \$62,950,000.

A CASH DISCOUNT.—A train in Arizona was boarded by robbers, who went through the luckless passengers. One of them happened to be a Hebrew "drummer" from New York, who, when his turn came, with reluctance fished out \$200, but rapidly fished out \$4 from the pile and placed it in his vest pocket. "What do you mean by that?" asked the robber, as he toyed with his revolver. Hurriedly came the answer: "Mine frient, you surely would not refuse me two per cent. discount on a strictly cash transaction like dis'?"

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In dyspepsia and loss of appetite its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatic and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in Phthisis and other wasting diseases, Nervous Prostration, Constipation, Inanition, Malnutrition, Intestinal Indigestion and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.

Acidi Phosphorici aa, grains, ss.

Antipyrin.

Ext. Apii. Grav. dulc. (Celery), aa grains, j.

Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in Headaches, Neuralgia, Insomnia, Neurasthenia and general Nervous Irritability, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

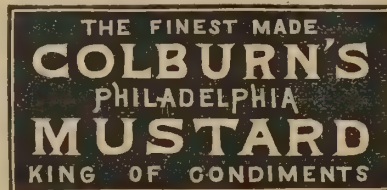
We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISHER'S PRICE.	WITH DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

THE LABORATORY.

To Inventors, Manufacturers and Applicants for Patents

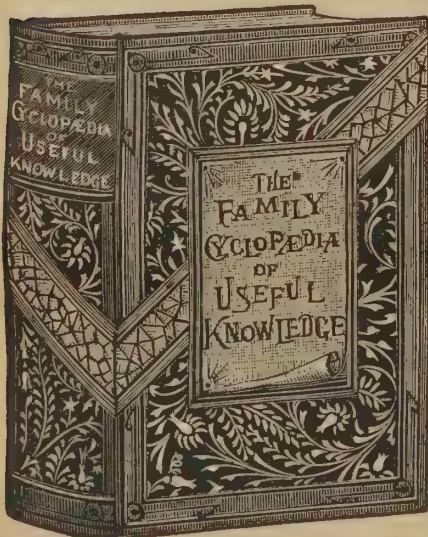
The AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable.

Address, AMERICAN ANALYST,
19 Park Place, N. Y.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequaled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

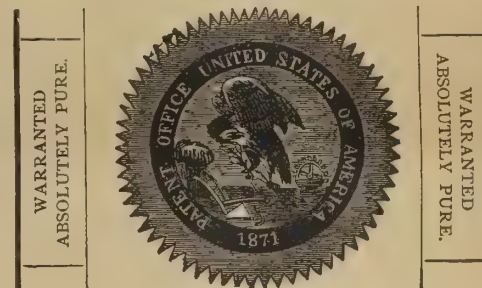
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED
BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

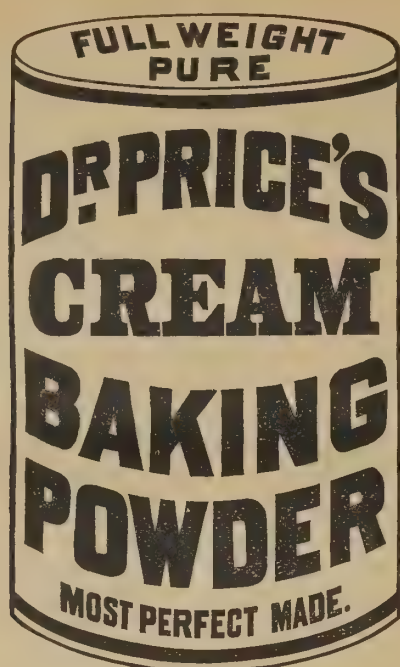
Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals. PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

Soothe the Baby,

not with narcotics, but with nourishment that will give a healthy growth, and which will be readily assimilated by the little ones.

RIDGE'S FOOD

will do it every time. Try it. WOOLRICH & Co. on label.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE

JAMES CHALMER'S SON'S
Transparent Gelatine.

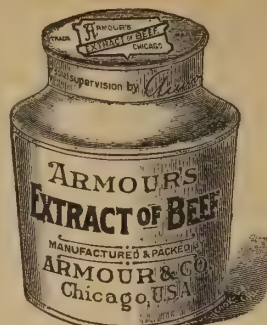
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 23.

NEW YORK, THURSDAY, JUNE 6, 1889.

WHOLE No. 119.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - - \$1 per year.
Single Copies, - - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors,
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Adulterated Pepper.....	267
Brains in Business.....	268
Canadian Adulterations.....	269
Domestic Dietetics.....	269
Editorial.....	263
Butter and Oleo in Boston; The Cigarette Curse; Be- yond the Reach of Science; Antipyrine; Clean Milk; Adulteration in Boston.	
Familiar Remedies.....	268
Filtering Drinking Water—Concluded.....	266
Pipe Smoking.....	269

BUTTER AND OLEO IN BOSTON.

The spring butter season is noticeable for being some three weeks earlier than usual; this is caused by the extremely fine weather we have had during the first months of the year. The butter market has been very slow and dragging, as the season was not long enough to allow dealers to clean up the old butter which they had in stock before the new creameries would arrive. Those creameries that have not been running during the winter have started or will start in a very short time. A good share of the goods coming into our market now is Western stock, some of which is as good as any of the different creameries made. Dairy butter is arriving in fair quantities, though in the East, since the creameries have started, a decrease is noticeable. When the creameries start to collect the cream, small farmers prefer to sell it to them, thereby avoiding all the work connected with making the butter. The butter we are receiving now is of the standard quality, for hay and grain fed cattle, though as a rule it is not quite up to butter that results from grass fed animals, which seems to have better standing quality. The prices of butter are such at present that most all who wish for it can secure it at a small cost; the present cost has made quite a change in the demand and the outlook is much more favorable than it was. The privileges enjoyed by the oleomargarine dealers in this State allow them to com-

pete very sharply with butter people, who have on various occasions made unsuccessful attempts to have stricter legislation on oleo, claiming that it was a cheap imitation of butter sold in many cases to the consumers as butter. The trade here is very large on oleo; most of the marine trade consume it solely, seeming to think that it will stand better on the water. The class of people that consume oleo, as a rule, are people who cannot afford to pay for good quality butter, and who are satisfied with oleo, especially as it can be bought so low. Despite the wonderful growth it has had in Massachusetts the people who favor butter are in the majority, and in all probability will continue to be. The last effort made for stricter legislation on oleo hurt it to some extent, though temporarily. Most all of the retailers carried a very light stock, and would not decide upon taking a license until after the crisis was passed.

The above quotation from the *Boston Advertiser* evidently gives the views of the butter dealers, and considering their natural bias in favor of butter, it shows very fairly for oleomargarine. The reason given why the poor man prefers oleo is not the only nor the principal one. The best butter made by farmers who use only the cream of the best breed of cows, conduct everything neatly and cleanly and produce the gilt-edge article, is in constant demand by the wealthy people of the land at a price nearly double that of creamery or factory butter. Creamery butter, the next best, but very inferior, is a factory made butter from cream brought in by farmers. This generally is our best butter aside from the gilt-edge just described. Then comes the so-called ladle-packed which is butter brought in lumps by the farmers and bought by country storekeepers who pick out the best of it for their village trade, leaving the rest lying around exposed to all the filth and dirt that may come in contact with it, and then mixing and coloring it. It is to this delectable stuff the poor man prefers clean oleomargarine, and to protect such nasty grease our legislators are asked to pass anti-oleo laws.

THE CIGARETTE CURSE.

During the discussion of the bill mentioned by us last week as having been passed by the Michigan Legislature prohibiting the sale of cigarettes to minors, the Superintendent of Schools in Lansing, in co-operation with the Woman's Club of that city, sent out circular letters to all the prominent educators of the State—persons whose daily contact with the young would enable them to observe the extent and effects of the tobacco habit. Between two and three hundred replies were received, and two-thirds of them—notably those from the cities and larger towns—reported a startling increase in the use of cigarettes by youths. In answer to the question, "Can you cite instances of serious disease or failure in school work caused by the use of cigarettes?" nearly all replies noted serious failure in the work, and many gave answers similar to the following: "One young man seriously dwarfed physically." "One boy in this school only eleven years old is almost an idiot from the use of tobacco and beer." "One boy recently lost two weeks' work from throat trouble caused by the use of tobacco." Another reports two

very serious cases where the whole nervous system was seriously deranged. The expressions, "Lost his mind from the use of tobacco," "A total wreck," occur frequently in the testimony of the teachers. One prominent superintendent wrote: "The death of two boys formerly in my school is to be attributed to this villainous habit, and at least half a dozen others have impaired their physical and mental growth fully one-half." In answer to a question relative to the evil effects of the habit noted upon health, progress in study, and morals, the general drift of the replies states that it intensifies nervous diseases, causes diseases of the throat, brain, heart, ears and eyes, epilepsy and fits and muscular debility, stunts the growth of body and mind, and leads to failure of memory. As to its effect on progress in study, all are agreed in having noted incapacity, lack of animation, and inability to do successful work, and that it is directly antagonistic to morality. It is gratifying to call attention to the fact that the States of Massachusetts, Illinois, Maryland, Nebraska, New Jersey and New Hampshire have all enacted laws similar to the Michigan bill.

BEYOND THE REACH OF SCIENCE.

A new food preservative has been invented which will keep food of all kinds fresh and palatable for three months. It wouldn't be a bad idea to sprinkle a little of this preservative over the *AMERICAN ANALYST* and put it away until next fall, when it will come out as fresh as ever.—*Butchers' Advocate*, May 22.

No chemical preparation whatever is required to render our esteemed contemporary "fresh," as that is its essential quality. Neither could any preparation or process short of absolute extinction render the *Advocate* palatable. Providence seems to have protected it so effectually against the possession of interesting qualities that human science is powerless to fill the vacuum.

ANTIPYRINE.

There can be no longer any doubt that this peculiar remedy possesses some valuable properties, and that also it may be very dangerous because it has a tendency to interfere with the heart's action. Physicians, believing from the manner in which it was first introduced into this country that it was a good honest chemical preparation of great therapeutic value, that it would be kept as such strictly within the profession, and sold only on physicians' prescriptions, lent it their countenance and thus enabled the manufacturer to obtain a foothold in this country and sell it in large quantities. It was not generally known among physicians that it was a patent medicine, although druggists must have known this damaging fact, for every package bore the German Imperial *Schutzmarke*, the equivalent of our American "Patented." Had this been known it must have been a serious obstacle to the introduction of such a patented preparation among the profession. Now, however, having gained a foothold and having effectually

30 Shaves

for 2 Cents.

Send a two cent stamp to Colgate & Co. 55 John St., New York, who will mail you a sample of this superior soap sufficient to last a month,

ally succeeded in obtaining valuable editorial puffs and reports of cases in the medical journals, without any representation in the only proper place for announcing a strictly professional remedy—the advertising columns of the medical press—the mask is suddenly withdrawn and antipyrine is advertised broadcast to the public, in the usual style of cure-alls, in the daily papers throughout the country. Can the profession afford to prescribe such a remedy, and further than this, knowing its dangers, can they afford to allow their patients and neighbors to run the risk of injuring life and health by the unrestricted and ignorant use of such a powerful and admittedly dangerous preparation?

CLEAN MILK.

When we look upon the beautiful whiteness of milk we are led to believe that it is absolutely clean. It seems so natural to believe that anything so white and pure-looking must be clean. When we remember, however, that water that seems perfectly clear and sparkling to the naked eye may contain the worst impurities, we are prepared to hear and understand that apparently clean white milk may be impure. We recently had exhibited to us the residuum cleaned out of apparently pure milk by an ingenious system of centrifugal cleansing employed by one of our condensed milk companies. This residuum consists of blood, putrescent matter, hair, dust and other impurities taken from the bottom of one of these centrifugal cleaners. The question suggests itself, May not the continued use of milk containing such impurities be the source of typhoid and other fevers just as much as impure water? And if this is so, why should not the same prophylactic care be exercised in cleansing milk as in distilling water? Here is a fresh opportunity for microscopical and bacteriological investigation, to which we shall again refer.

ADULTERATION IN MASSACHUSETTS.

The Massachusetts State Board of Health, in its monthly bulletin, makes some striking revelations respecting the food market in that venerable commonwealth. The analyses made by the Board in April show that, of 522 articles of food or of drugs examined, 205 were more or less adulterated. Among the more noticeable instances noted are: Of 258 samples of milk examined, 132 were adulterated or found to vary from the legal standard. Of five samples of lard, all were adulterated; 11 out of 59 specimens of spices fell below the standard, as did also 11 out of 16 samples of maple syrup, and 9 out of 19 samples of maple sugar. In the case of molasses, of 28 samples 8 were adulterated, while 11 of 18 samples of vinegar were found to be so

treated. Of 51 samples of drugs, however, but one was found varying from the legal standard. It is found that certain staple products, such as sugar, flour, and the various other cereal products, are very rarely adulterated, and the articles especially looked after by the Board are those found by experience to be especially liable to adulteration.

FILTERING DRINKING WATER.

THE INADEQUACY OF THE AVERAGE FILTER TO PURIFY THE LIQUID.

(Concluded from page 254.)

Asbestos-board I have not been able to procure of sufficiently firm, strong, and fine surface to resist the passage of bacteria under any considerable pressure from the hydrant brought to bear upon such a surface. The quality of the surface seems the important point. To yield a flow of any degree of rapidity, this surface must be large and that creates a tendency to break and necessitates a bulky filter, which most people shun. Packed asbestos shreds allow a few bacteria to pass through when the sterilized filtering mass is so dense as to cause the flow to be very slow. In this substance I have, as already mentioned, not observed so marked multiplication of bacteria as in the sand, porous and other filters. Although large bodies of sand fail to prevent the passage of bacteria with the water which percolates through, it is noticed that certain natural filters of this sort render water much freer from bacteria when the water has first to make its way through a layer of silt and minute particles which have been arrested by fine sand. It is from the application of this principle that the larger filter-beds are built which purify the water distributed by hydrants throughout various cities. Taking as a model the very carefully managed filter-beds of Berlin, it is seen that above the base of the filtering tanks is a layer of a foot of stones, gradually becoming smaller in size toward the upper surface, upon which is coarse gravel to the height of a foot more, then upon this a little more than two feet of sand, which at the top is as fine as can be procured. When the filter-bed has been freshly cleaned, as is found necessary for it after being constantly used for a week or so (occasionally several weeks), purified water is slowly backed into the filtering mass from below until this water, carrying up all the air with it, has reached the top of the upper layer. Then the ordinary river (or lake) water is made to flow very gently in, to the depth of one metre. This is then allowed to stand for at least twenty-four hours. The nitrogenous or other particles, confervoid vegetation, and whatever else the water contains as sediment, have then settled upon the upper portion of the fine sand without sinking deeper, and a delicate film is formed which, with careful inlet and gentle pressure (never to exceed two metres of water), retains nearly all the bacteria of the water supplied, and prevents their passage, provided that the flow through is very regular and slow (never more than three metres in a day). Nearly all this separation of the bacteria is produced by the sedimental matter retained on the surface of the sand, so that, when the filter slows from clogging, it is found that less than half an inch of the upper layer of sand need be removed.

From the statistics of Wolffhugel and of Plagge and Proskauer, we learn that the number of bacteria, originally very large in the River Spree, is reduced to a very small percentage in the filtered water, oftentimes a fraction of one per cent. I may add that the organic constituents are also decidedly lessened, and that the oxidizability, as tested by the reduction of a standard solution of permanganate of potash, is seen to be regularly lowered one-fourth and often one-third of the amount shown prior to the filtering. The long arrays of figures given in the reports of the action of these filter-beds show that, with hardly an exception, the ammonia is constantly removed by the process. In this country

the filter-beds, all of which are built upon the same plan as those in Berlin, are less perfect in their action, as the people in charge do not devote sufficient care to sedimentation in the case of those which I am familiar with. Thus, a very carefully planned filter-bed, which filters river water for one of our cities, allowed, at the time when I examined it, nearly half of the large number of bacteria in the water pumped from the river to pass through. This unsatisfactory result seemed to be due to the fact that too much water was required from the small filter beds, and hence not enough care could be bestowed upon the thoroughness of the filtration.

Of the various large filter systems which I have tested while they were in use in various manufactories and institutions, for which these filters were straining large quantities of water, the only kinds which reduced materially the number of bacteria as found in the hydrant water were those in which, by the addition of a minute proportion of a suitable salt, usually alum (as approved by the general experience of years in many districts), the suspended particles with the organic matter are caused to settle more rapidly, and then these form a deposit upon very fine sand, through which water is forced. From several examinations of a filter of this type, which in every case rendered the water much freer from germs than the original (unfiltered) water, I once found the filtered water wholly sterile, while the (Brooklyn) hydrant water of the neighborhood at the same time showed 379 germs developing from each c.c. This particular filter was constructed on the principle of Prof. A. R. Leeds, who informs me that the alum was present in the proportion of only one part in 100,000 of water. I could not, by the ordinary tests, detect the presence of this salt, and such a small amount can cause no appreciable harm. The alum used is probably decomposed, and its elements taken up by the organic matter and bases present. As previously stated, the sterilization of the water is here caused by mechanical and not by chemical action. In my tests the typhoid bacillus of the first agar culture from a recent spleen was not destroyed by standing for forty-eight hours in a solution of ten times the strength of that employed in these filters, while many other bacteria were alive after standing for forty-eight hours in an alum solution of one part to 1,000 of water, which sufficed to destroy the typhoid bacillus in that time. In the present stage of chemical knowledge there seems no sufficient evidence that in water these micro-organisms evolve the organic alkaloids which are considered to be produced when harmful bacteria are introduced into the system and by their action there cause disease. What the exact nature of the volatile organic constituents carried over in distillation may be, and whether they be deleterious or not, rests for the science of the future to determine. The process of boiling previous to vaporization in the still must kill all harmful bacteria, and all other bacteria that I have ever encountered in the original hydrant water from which such water as the well-known "Hygeia" is prepared. The bacteria which I have found in specimens of this excellent distilled water that I examined must have been introduced from without after the water was condensed from the still and before the bottling process was completed, and in this I have never found any other than harmless varieties. Water condensed from various stills of approved patterns I have found sterile. The relatively large amount of free ammonia found in such distilled waters (it being several times greater than any detected in the Croton hydrant water) does not seem to me to be objectionable. The condensed steam produced in distilling, and which constitutes the Hygeia water, represents a much larger original amount of water than results after the process of vaporization and condensation is completed, and the ammonia may besides come from the air and from other sources.

To those who desire a water freer from alkaline earths than the ordinary "hard" water which they may have to drink, it should be mentioned that the process of heating, in the sterilization by boiling which I so

urgently recommend when it is necessary to drink suspected water, drives off free carbonic acid and so causes the deposition as an insoluble sediment of the carbonate of lime and other objectionable salts which form the so-called "temporary hardness." The water is thus rendered "softer." When boiling is resorted to because of actual infection of the water, it should be carefully done. It is best to have the water, perhaps after a preliminary boiling and straining, decanted into bottles, each holding say a quart, and these covered with a suitable glass cap or plugged with cotton or provided with a clean stopper loosely dropped in, and then the bottles placed in a kettle or cauldron in the absence of a steaming apparatus. This is heated and kept near the boiling point for an hour. Then the whole is allowed to cool, and the bottles may be placed near ice; but into the water thus carefully prepared it is not advisable to put ordinary ice, for harmful bacteria may retain their vitality in ice longer than in water. Pure water loses all its excellence when unwholesome ice is melted in it. For those to whom the taste of boiled water is unpleasant, weak teas, wine, or other savor may be added to mask the absence of the more agreeable taste imparted by the process of aërication (which under ordinary conditions may itself be a means of adding bacteria to the water). There are ingenious hypotheses as to the utility of nitrifying bacteria in overwhelming other varieties and conjectures that, if recognized and planted upon filters, these nitrifying ones would safely destroy the pernicious ones; but among these theories I know of none to be seriously recommended. The recent results in America and various parts of Europe are so inconclusive and diverse that the brief limits and practical aim of this paper will hardly permit any further consideration of them.

SUMMARY.

Boiling sterilizes water, and within thirty minutes will have killed harmful bacteria.

Drugs and other agents acting chemically, if used in amounts which are commonly safe, do not sterilize water.

The prolonged heat which water undergoes in the usual process of distillation destroys all germs which may be in the water undergoing the process.

Ordinary filters, even if satisfactory as strainers, fail to remove all bacteria from drinking water. So far from lessening the number in the original water, the filtering substance may allow a more rapid multiplication than these micro-organisms would ordinarily undergo in the unfiltered water on standing, and the germs of disease, even if held back by the filtering substance, may be harbored in all filters.

The finer the substance through which the water passes, and the lower the pressure, the more perfect is the action of the filter in holding back the bacteria.

Of all substances thus far furnished for domestic filters, porous rebaked porcelain, carefully selected, I have found to be the best. If thick and strong enough to allow the use of a large surface, and the substance remain perfect (without flaw or break), this may yield a fair flow of clear water, free from all bacteria; yet under our ordinary croton pressure of one atmosphere or less, this yield is only in rapid drops, unless the apparatus be complex.

To insure the permanency of this action, the filter should be occasionally sterilized throughout by steaming or by other means; for, under prolonged pressure, various kinds of bacteria can go through, and in the copious organic matter collected on the filter some harmful micro-organisms can retain a high degree of vitality for weeks longer than I have ever found them to live in pure water.

Where filtering is really necessary, it is in general best for the community that it be done carefully on a large scale through sand-beds upon which a fine layer of organic and inorganic matter is expressly produced by sedimentation, because of its valuable action in holding back the great majority of the bacteria.

A bad water filtered is less desirable than a pure water in its natural state. When, therefore, filtration is employed because of real danger of infection, the filtered water should, as a rule, be furthermore boiled, as the entire absence of sediment and cloudiness does not insure that the bacteria of disease may not have made their way through the filter.

In discussing the foregoing paper, Dr. T. Mitchell Prudden said that a good deal of objection had been made to the work of bacteriologists, and largely on the ground that it had been found very difficult by them to detect the typhoid bacillus in drinking water. It was purely a technical matter, and the trouble was the difficulty of distinguishing the typhoid bacillus from other bacilli which closely resembled it. This applied principally to large bodies of water, since in small bodies of water the typhoid bacillus could be much more readily recognized. Dr. Prudden then spoke of the serious epidemic of typhoid fever which occurred in Providence, R. I., in the early part of the winter, and to which reference had been made in the paper. It seemed that last autumn typhoid fever was prevalent in a village of French Canadians situated on the river from which the water supply was derived; and about half a mile above the city. The sewage of the village did not pass directly into the river, but the inhabitants emptied the dejections from typhoid fever patients into privy vaults and also upon the banks of the river. In November there was an unusually severe rain-storm, which washed a large amount of material from the banks into the stream, and early in December the death rate in Providence rose to 127. Notwithstanding the fact that the flow of water amounted to over seven million gallons per hour, he was able to detect a few typhoid bacilli, together with a large number of ordinary water bacilli, in the charcoal filter referred to by Dr. Currier. It consisted of an outer and inner metallic ball, and was so arranged that the water could pass around the charcoal, while there was an orifice half an inch in diameter from which the water escaped.

Dr. John C. Peters said that it seemed that to-day the water of both Berlin and London was more free from contaminations than that of New York. The filter-beds employed in purifying the water supply of London were mostly of sand, the efficacy of which Dr. Currier had spoken of in the paper. Dr. Peters said that during the past four years he had paid considerable attention to the condition of the Croton water supply, and he had been glad to learn that the State Board of Health had undertaken the work of keeping it as pure as possible in the future. At present the amount of contamination that got into the water was very great; yet it was a fact that during the past season there had been a smaller number of cases of typhoid fever reported in the city than for a long time before.

Dr. R. C. M. Page said that for a number of years past, up to last summer, he had used in his house a globe filter about three inches in diameter, containing clean sand. At first tin was the material used in its construction, but afterward copper was substituted for it, as the tin soon rusted out. Last summer, in Paris, he met with the filter spoken of by Dr. Currier in the paper, which he now exhibited, and which he said was the only filter which had really ever proved satisfactory to him. It somewhat resembled the Pasteur filter, and consisted of a large disk of porcelain backed by carbon. It allowed the water to pass much more quickly than the Pasteur filter, and two quarts an hour could be obtained from it. He thought that the water from such a filter was better than distilled water, as a rule, since one could never feel sure that the latter, as ordinarily supplied, was freshly distilled.

Dr. J. Lewis Smith said that from recent experiments referred to in a lecture by Jules Simon, of Paris, it would appear that a filter which would arrest the passage of the Klebs-Löffler bacillus would permit the passage of ptomaines resulting from microbic action. This seemed to him a very interesting point.

Dr. John C. Peters said that he had reason to believe, on good authority, that not one-half of the Apollinaris water put upon the water was derived from the Apollinaris Spring. A considerable proportion of it, at least, was artificially prepared at Antwerp, where this could be done very cheaply.

Dr. Currier inquired if any of those present could inform him what was the effect of distilled water upon children and youth, particularly as regards the lack of salts, of which the water was deprived by the process of distillation.

Dr. H. Jacobi said that the salts in drinking water that could be expected to be beneficial to the system were the chlorides and phosphates. The Croton water, when pure, was regarded as a very excellent water, and yet it came very near distilled water in regard to the absence of salts. Some of the hot spring waters in Europe also contained very few salts. He believed, however, that we all suffered more from the presence of salts

in drinking water than from the lack of them. When we did drink hard water, the salts merely passed through the system without being utilized. It was, unquestionably, a fact that children, as well as older persons, took into their systems, from milk and other liquids, and from both farinaceous and animal foods, more salts than they could possibly utilize. Hence he did not believe that distilled water was detrimental to health on account of its lack of salts.

The AMERICAN ANALYST simply would add that any well-made filter of proper material that can be kept clean and is kept clean by sterilizing, either in hot water or hot air, seems to be adapted to filter water, but that to make sure that the bacteria are destroyed the water should be boiled. The remarks of Dr. Peters on Apollinaris water are also important, and will, no doubt, be read with interest. About obtaining baked porcelain of sufficient porosity to act as a filtering material without being as open as a sieve, we have serious doubts. The potter's art has not yet sufficiently advanced to enable them to so regulate their kilns as to reproduce a porcelain of uniform porosity.

ADULTERATED PEPPER.

ONE OF JOHN BULL'S RECENT "YANKEE" DEVICES.

A writer in the London *Analyst* says: "A new material in extensive use for the adulteration of pepper having recently come under my notice, I wish to call the attention of the public analysts to it, that a united effort in all quarters may stamp out what bids fair to become a very successful fraud. The material in question consists of rice, starch, barytes, calcic carbonate and lead chromate, all, of course, finely ground and intimately mixed. The lead chromate amounts to about 10 per cent. of the whole compound. By the addition of about 5 per cent. of this mixture, the color of pepper is so immensely improved as to raise the market value very considerably, but I have met with pepper containing fully 10 per cent. Such confidence do the manufacturers of this delectable mixture feel in it, that they guarantee their peppers colored with it to be genuine, and I saw one invoice indorsed, 'Warranted genuine as per Somerset House analysis.' Nevertheless, the detection of this adulteration is not difficult. The increased ash and presence of rice would arrest attention, while the peculiar and unnatural tinge communicated by the chromate is readily noticeable. The method of examination, however, which has proved most successful in my hands is agitation with chloroform, by which means the mineral ingredients of the adulterant are obtained in their natural combinations. The well-washed residue is gently warmed until the chloroform has evaporated, treated with a very little soda carbonate solution and allowed to cool. A few drops of ether, which has been agitated with aqueous hydrogen peroxide are then added, and the mixture carefully acidified with hydrochloric acid, when the delicate blue coloration is readily obtained, and the barium and lead remain to be estimated in the usual way.

NATURAL POLISH.—Benjamin Johnson owns a farm in Rush Valley, U. T., upon which he has just discovered a mine of natural shoe-blackening. An analysis of this peculiar material shows that it contains 16 per cent. carbon, 34 per cent. aluminum, and the remainder clay. When taken out the material is moist and soft, and when used as a shoe-blackening produces a fine polish, which is not easily destroyed.

NEW WIRE.—Wire is now being manufactured—whether iron, copper or brass—by a new and greatly improved process, and at a considerably reduced cost. The machine devised for this purpose consists of a series of rolls in a continuous train, geared with a common driver, each pair of rolls having a greater speed than the pair preceding it, with an intervening friction clutch adapted to graduate the speed of the rolls to the speed of the wire in process of rolling. The entire operation of producing the smallest size wires from rods of one-half inch is done cold.

BRAINS IN BUSINESS.

ALL THE PRINCIPLES OF LIFE BASED ON BUSINESS METHODS.

One great secret of success in business—the secret, in fact, of success on a large scale—is to conceive of it as a matter of principles, not merely as a series of transactions. There are great merchants as there are great statesmen, and there are small merchants as there are small politicians, and the difference between the great and the small men is very much the same in both professions. The small politician works by the day, and sees only the one small opportunity before him; the small merchant does the same thing—he is looking for the next dollar. The statesman, on the other hand, is master of the situation because he understands the general principles which control events; this knowledge enables him to deal with large questions and to shape the future. The great merchant does the same thing; his business is not a mere money-getting affair, not a mere matter of barter, but a science and an art; he studies the general laws of trade, watches the general condition of the country, investigates present needs, foresees future wants, and adapts his business to the broad conditions of his time and place. He puts as much brains into his work as does the statesman, and he ends by being not a money getter, but a large-minded and capable man. An eminently successful business man, of the statesmanlike quality, said the other day that the more he understood of life the more clearly he saw that it was all done on business principles. By which he meant, not only that the universe stands for the dollar, but that the universe is governed by unvarying laws; that promptness, exactness, thoroughness and honesty are wrought into its very fibre. On these business principles all life is conducted—if not by men, at least by that Power which is behind man. It ought to be the ambition of every young man to treat his business from the point of view of the statesman, and not from that of the politician.—*Christian Union*.

FAMILIAR REMEDIES.

SOME OLD PATENT MEDICINES AND THE FORTUNES MADE BY THEM.

From an interview with an old Druggist in *Taggart's Times*, of recent date, we glean the following interesting facts:

Some few patent medicines hold their own, and are as popular as ever, but the majority have their day, die, and are forgotten. At one time the most popular patent medicine in this country, was Sand's sarsaparilla, on which the owner made an independent fortune in a few years. This was about 1830. Sand's sarsaparilla is now entirely out of the market. It was followed by Doctor Townsend's sarsaparilla, and the proprietor of this also grew rich, but he had an imitator of the same name, who to evade the original patent right, called his specific Old Doctor Townsend's Sarsaparilla. Another great sarsaparilla man was the eccentric Doctor H. T. Helmbold, who made and spent several fortunes off his famous buchu and sarsaparilla. He is living in New York. Twenty years ago, Doctor Helmbold was probably the most extensive advertiser in the country, and annually expended hundreds of thousands of dollars with the newspapers. One of his methods of attracting notoriety, was by driving around the country in an elegant four-in-hand, and once he took this magnificent equipage with him to Europe, where he created quite a furor. Besides the Doctor's popularity, his wife was a lady of remarkable beauty, which made the couple conspicuous wherever they went. There was a printer named Brown, who flourished in New York about 1860. After struggling with fortune for many years in a small printing office on the Bowery, he finally hit upon a plan by which he made an independent fortune in less than two years. This was his adver-

tisement which became a household phrase from one end of the Union to the other: "A clergyman whose sands of life have almost run out, has discovered in India, a panacea for consumption, which he will be pleased to mail to any fellow-sufferer, on the receipt of a two cent postage stamp." Those who sent the stamp would receive in reply from the alleged clergyman a printed recipe, the ingredients of which it would be impossible to have filled at any drug store. At the bottom of the recipe was a note, informing the correspondent that if he or she found it impossible to have the receipt filled, the good clergyman would, on the receipt of one dollar, send a bottle of the specific already prepared. The clergyman racket took with the religious people especially, and thousands sent Brown their dollar. It was afterward discovered that the principal ingredient was a mild preparation of *Cannabis Indica* which in itself is a deadly poison, but which in its weakened state, had an expectorant effect on consumptives, raising the phlegm, and relieving them, though no positive cures by it were ever known. Brown did not live long to enjoy the independent fortune he acquired by his shrewdness, and knowledge of human nature.

Brandreth's Indian Vegetable Pills enjoyed a large sale forty-five years ago, and reaped their proprietor a fortune. He was the first patent medicine man to advertise extensively in the *Public Ledger*, and his cash helped keep that paper on its legs in its infancy. One of his employees, named Wright, it is alleged, used Brandreth's formula and established Wright's Indian Vegetable Pills, on which he also waxed rich. Stomach Bitters have also yielded large fortunes to their proprietors. Among the most successful of these have been Sheetz's and Hostetter's. Sheetz, who is a Philadelphian, afterward bought the plant of Wright's Indian Vegetable Pills, on which he has coined money. Dr. Wishart's Pine Tree Tar Cordial was a famous cure for consumption in its day, though there is little demand for it now. Wishart was a Kensington grocer and ship chandler, and, it is said, he accidentally discovered the curative properties of tar when a boy down in the Jersey woods. He was a devout Methodist, and died a dozen years ago, leaving a large fortune. Among the patent remedies that had a large sale formerly was Dr. Marchisi's Catholicism, which was a renowned specific for female disorders. Doctors Young, Leidy and Rose, all Philadelphians, made large fortunes from specifics for the same complaints. Among the oldest of the patent medicines now extant is Swaim's Panacea, for cleansing the blood. For whooping cough the Compound Tincture of Seneca and Cox's Hive Syrup were popular remedies formerly, but of late years Delevau's Whooping Cough Remedy has had a large sale.

Godfrey's Cordial was among the oldest of the patent medicines, but, like Dover's Powders and Turlington's Balsam, was long ago incorporated in the dispensatory. The latter remedy was named after its inventor, a famous London physician, and is now known as the Compound Tincture of Benzoime. It is for kidney disorders. Dover's Powders and Godfrey's Cordial are for producing sleep and are full of laudanum. The Oil of Spike and Oil of Brick were formerly patent medicines. There are no patents on them now, but they are generally in use. To the same class belongs Haarlem Oil, which for many generations has been a cure for urinary complaints. In fact, patent medicines date back to the beginning of the seventeenth century. Dr. Dover, the inventor of Dover's Powders, and one of the first patent medicine specialists, in his work, "Old Physician's Legacy," gives the origin of the word quack as applied to the vendors of patent medicines. After describing the use of mercury, which from the beginning has been the chief ingredient in remedies designed for the alleviation of certain disorders, the old doctor asks: "And why should they term me a quack salver, which is the German for quicksilver or mercury?" Until 1847, owners of proprietary medicines found it difficult to secure protection for their goods in this country, but in the latter year they were protected by national laws.

Among the most successful proprietary medicines have been those for alleviating rheumatism. Thirty years ago a popular remedy for this was Seneca Oil, which derived its name from being found near Seneca Lake. It was nothing more or less than the skimmings of coal oil, but when, during the war, coal oil was discovered in large quantities, it leaked out what Seneca Oil was, and the remedy suddenly collapsed. The principal ingredient in all rubbing lotions, whether protected by patent or not, is soap liniment, which is pure castile soap dissolved in spirits of turpentine and oil of oreganum, with a little laudanum to make it soothing. The greatest sale ever realized by a rheumatic remedy was St. Jacob's Oil. Dozens of bottles used to be sold every day by nearly every retail druggist in the land, but now it is scarcely ever asked for. St. Jacob's Oil owed its success to the originality of a Philadelphia journalist named Wm. E. Cunningham, who in 1881 was a reporter on the *Public Ledger*. For twenty-five dollars a week, Cunningham daily ground out long interviews with prominent citizens all over the country regarding the beneficial effects of the oil, and he made these interviews so interesting that the public would read them nearly to the end before they would discover it was an advertising puff. Hobensack's worm medicine still has a large sale. Kunkel has made money fighting the worms, but his medicine don't sell like it did. Worm medicines, unless purely vegetable, are dangerous. Worm powders are especially to be avoided. The most of them contain a dangerous poison, called santanine, designed to kill the worms, but oftener kills the patient. Everybody has heard of Drake's Plantation Bitters. Its proprietor, P. H. Drake, a New Yorker, when he invented the bitters in 1860 made a bet with a capitalist of \$10,000 that he would make half a million of dollars off the bitters inside of ten years. Drake was the first man to start fence advertising and advertising on rocks at summer resorts and other much frequented places. As a reminder of his bet, his bitters were known as Drake's Plantation Bitters X 1860-1-10—signifying that he would make a fortune on them in ten years from 1860. He won his bet, and retired a millionaire. His bitters are now a thing of the past. Their principal ingredient was pure gin and alcohol, and this made them so popular. During the war, as liquor was excluded from the army, the sutlers used to buy up Drake's bitters by the thousands of bottles and sell them to the soldiers. After the encampment would be broken up, the farmers in the neighborhood would go around with wagons, collect the bottles which had Drake's name blown on them, and send them to New York, where they would be bought up by the proprietor for almost nothing, refilled and sent to the front again. Mishler's Herb Bitters were popular twenty-five years ago, but sales are small now. Jayne's medicines still maintain their great popularity. Dr. Jayne, the founder of the house, was originally a South Jersey shoemaker, and began business in a basement on South Second Street. Hood's and Ayer's are the most popular of the sarsaparilla remedies on sale to-day. Ayer's is an old-timer—Hood's is new. Both are from Lowell, Mass. Walker's Vinegar Bitters made a fortune for its proprietor ten years ago, but he lost all his money through difficulty with his female employees. Dr. M. F. Groves, who died ten or twelve years ago, and was a popular physician of Southwark, was the inventor of Anodyne for Infants, cure for rheumatism and other specifics, which still have a large sale. Dr. Yellowstone's remedy, the Herbs of Joy, are never heard of now, but they once had an extensive sale. Considerable money has been made in the past from hair dye, and hair-growing preparations, but like face-beautifying preparations, they are not as popular as they were. Wright made a big fortune with his face preparations, so did Upham, who was one of the pioneers of '49 in California, and who went to Florida, where he bought up large orange groves. He was a good fellow, but he died a few years ago. One of the biggest frauds ever perpetrated on the public was the Scotch Oats Essence, which concern recently col-

lapsed, when sixty-three gross of the bottles were sold at four cents a bottle. The retail price was one dollar. Patent goods in our line that now enjoy the most extensive sale are the porous plasters for colds and the prepared mustard and spice plasters for cramps, which are a great improvement on the old plan of getting up in the middle of the night and making a poultice yourself. The day of big profits is past. Formerly where we retailed a patent medicine specific for a dollar, or about fifty per cent. above its cost, now our profits are not above nine cents per bottle. As a general thing, there has been for the past few years a decline in the number of firms engaged in the patent medicine business. That is the reason that Johnston, Holloway & Co., the largest wholesale, dealers in the city, got out of it. Other Philadelphia firms who deal extensively in patent medicines by the wholesale are French, Richards & Co. and Smith, Kline & Co. The largest dealer in the United States is Charles N. Crittendon, of New York City.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

June.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb.

FRUITS.—Cherries, strawberries, bananas, pineapple.

PRACTICAL RECIPES.

WHITE SOUP.—The day before it is to be used make a stock of a knuckle of veal, separated into three or four pieces, a slice of ham as lean as possible, a few onions, thyme, cloves and mace, stew twelve or fourteen hours, until the stock is as rich as the materials can make it; an old fowl will make it much richer if added. Remove from the fire, after being sufficiently stewed, let it cool, and then cut off the fat; add to it four ounces of pounded blanched almonds, let it boil slowly, thicken it with half a pint of cream and an egg, boil slowly for half an hour, and serve.

RISSOLES.—1. Cut some puff paste with a round tin cutter, about three inches wide. Have ready some cold fowl or veal very finely minced and seasoned with a little pounded garlic, grated lemon peel, pepper, salt and mace, the juice of half a lemon, and moisten with a little good gravy. Put some of the mince upon a bit of the paste, wet the edges, and lay over it another bit. Press it gently round the rim, brush all over with a well-beaten egg, and strew over them some sifted bread crumbs. Fry them a light brown in boiling clarified beef dripping, and lay them upon a sieve before the fire to drain. Garnish with fried parsley.

2. Mince very finely some cold roast veal, and a small piece of bacon. Season it with grated nutmeg and salt, then moisten it with a little milk and make it up into good sized balls. Dip these into the yolks of eggs finely beaten up, and then into finely grated bread. Fry them of a light-brown color in good dripping, then drain them on a sieve. Garnish with parsley.

BEAN SALAD.—Cut up a lettuce, and add to it a pint of boiled broad beans that are quite cold. Chop up two

hard boiled eggs and sprinkle them over the salad. Serve with plain dressing.

MACARONI.—When tender break the macaroni into even lengths and boil in water; pour off the water and fill a baking-dish with alternate layers of grated cheese and macaroni, until it is nearly full; finish off the top with a layer of mushrooms; pour chicken or beef gravy over the whole, and bake until it is heated through.

ALMOND CAKE.—Blanch and pound in a mortar eight ounces of sweet and one ounce of bitter almonds; add a few drops of rose-water or white of egg every few minutes to prevent oiling; add six tablespoonfuls of sifted sugar and eight beaten eggs; sift in six tablespoonfuls of flour, and work it thoroughly with the mixture; gradually add a quarter of a pound of creamed butter; beat the mixture constantly while preparing the cake, or it will be heavy; add two teaspoonfuls Horsford's baking powder; put a buttered paper inside of a buttered tin, pour in the mixture, and bake in a quick oven; cover the cake with paper if the oven is too hot.

CHEESE PUFFS.—One and a half pints of flour made into a smooth batter with one and a half pints of sweet milk; add teaspoonful each of salt and sugar and six well beaten eggs (no baking powder); grate into this a large cupful of strong, rich cheese; stir well and bake one hour in a good oven; this will rise very high and must be eaten at once.

BAKED EGG PLANT.—Pare an egg plant and cut it into pieces, boil them till tender, drain, mash and season; put into a baking-dish, sprinkle with bread crumbs, pour melted butter over all and bake in a hot oven.

CANADIAN ADULTERATIONS.

HOW THE PURE FOOD MOVEMENT LANGUISHES ACROSS
THE BORDER.

The Blue Book just issued by the Department of Inland Revenue in Canada contains some facts of a nature to arouse renewed interest upon the part of those engaged in fighting food adulteration. One hundred and ninety-four samples of spices were analyzed, and the result showed 111 adulterated; 85 samples of coffee showed 23 adulterated, and 3 of doubtful quality. The Commissioners say, while the adulteration of spices is not so serious to public health, yet it is a commercial fraud, and is so serious in extent that they urge upon the Government the licensing spice mills which shall call for inspection. The following list of articles cannot fail to be of interest to every advocate of pure food: Coming to the details of the analyses some interesting particulars are noted. The adulteration of butter are specified as follows: "Excess of salt," "mouldy and unfit for food," "excess of water," "water and salt," "beef fat," "a small amount of foreign fat," etc. In milk the chief adulterations are by removal of butter fat and addition of water. Cream of tartar is shown to be adulterated by "tartrate and sand," "sulphate of lime," "phosphate of lime," "starch of farina," "quartz of silicious matter," "starch," "flour," "traces of phosphoric acid," etc. The adulteration of coffee is largely by "roasted grain and chicory," and "burnt starch;" also "roasted corn" and "roasted beans," and occasionally "burnt sugar" and "starch." The adulteration of coffee, the analyses show, is very large. Drugs also show a considerable adulteration, either by dilution with water, or by weakness in some of the ingredients. The adulterations of spices appears to have been carried on to a very serious extent. As already noted, out of 194 samples, 111 were adulterated, 5 were doubtful, and only 78 genuine. Among the forms of adulteration may be noted: Turmeric, flour and turmeric starch and turmeric, starch, turmeric and cayenne, flour, starch, maize and other starch, wood fibre, wheat flour, clove stalks, roasted grain, pea starch, cassia, cinnamon, cassia and starch, glutinous paste, cayenne,

mustard husks, starch granules, magnetic sand, cereal, starch, millings and excess of sand flour, earthy matter and sand, sulphate of lime, flour and cayenne, flour and corn starch, roasted corn and bread crumbs, etc., etc., almost *ad libitum*. The adulteration of mustard is on a large scale. Out of 55 samples analyzed, only 21 are classed as genuine or good, and even of these a number contain foreign substances to a small extent. The principal adulterations of mustard are flour and turmeric, turmeric and starch, starch, cayenne pepper and salt, cayenne and salt, cayenne and turmeric, wheat and tapioca flour and potato starch, wheat fibre, turmeric, potato, arrow root, etc., etc. Indeed, as regards spices, it would seem as if the purchaser, in about three cases out of five, would be pretty certain to get the adulterated article.

PIPE SMOKING.

THE PROPER KIND OF PIPE FOR ENJOYABLE USE.

The great desideratum in a smoking pipe is its interior porosity; that is to say, its capacity for the absorption of the nicotine and ammonia contained in tobacco. It is unfit for use when it has become saturated with these tobacco poisons, and hence a smoker who desires to enjoy his pipe and avoid tobacco poisons should choose cheap, porous pipes, and change them often. I have seen a meerschaum pipe so saturated with nicotine that it sweats it, and it had to be continually rubbed to prevent tarnishing. Now, anybody knows such a pipe cannot be wholesome. I smoke a cheap pipe made of ground corn-cobs, and throw it away after a few smokes, and so avoid all the disagreeable symptoms of nicotine poisoning. Some of these cob composition pipes are coated with shellac, but they are too odoriferous when first fired, and don't suit a fastidious smoker. But a cob pipe is made that is coated with some simple vegetable glue, and it gives the sweetest smoke imaginable—when fair tobacco is used—for a half dozen smokes.—*St. Louis Globe-Democrat*.

NUTRITION IN EGGS.—Prof. Fresenius, of Wiesbaden, after a long series of chemical analyses, declares that an egg contains as much nourishment as a pound and an ounce of cherries, a pound and a quarter of grapes, a pound and a half of russet apples, two pounds of gooseberries, and four pounds of pears, and that 114 pounds of grapes, 127 pounds of russet apples, 192 pounds of pears, and 327 pounds of plums are equal in nourishment to 100 pounds of potatoes.

COTTON PROTECTOR.—Another device or method has been added to those heretofore proposed to prevent the burning of cotton when being conveyed in vessels. The safeguard now brought forward consists in wrapping each bale of cotton in wire gauze instead of the usual covering of jute bagging. It has been, it is claimed, subjected to all kinds of tests, including hooks and compressions, and it is alleged has proved itself equal in all respects to jute bagging, the cost of the new material at present being about the same as that of jute bagging. The principle involved is that flame will not pass through very small holes, according to the well-known construction of the Davy safety lamp.

CANAL ELEVATORS.—A canal has just been constructed in Belgium in which, instead of locks, the boats are hoisted by elevators from one level to another. The canal extends from the coal region in the interior of Belgium to Brussels, crossing several other canals at the same grade, so that Belgian coal can be brought directly by boats to Paris, as well as to all the principal towns in Belgium and Holland. As the line passes over a rather hilly country, various ascents and descents must be made, and to save the long delays incidental to passing locks, the change of grade is made by means of hydraulic elevators. The boats, which measure about seventy tons, are towed at the low level into an immense tank, with gates, which is submerged in the canal. The gates are then closed, and the tank, which rests on the pistons of a huge hydraulic elevator, is raised to the upper level, when connection is made with the next section of the canal by means of double gates, and the boat proceeds on its way.

ARTIFICIAL BOARDS.—A Swiss inventor has perfected a method of making artificial boards and is advocating their use in building. They are made of a mixture of plaster of Paris and reeds pressed into shape by hydraulic process. The material has the advantage of incombustibility and lightness and will resist the warping action of atmospheric changes.

PAPER POWDER.—For some time past a new gunpowder has been made at the government powder factory at Wetteren, in Belgium; it is known as poudrepapier, or paper powder, and it is stated that a charge of two and one-half grammes, or thirty-nine grains, gives, in a rifle of small calibre, an initial velocity of some six hundred and sixty yards to the ball—this being equal to, if it does not exceed, the celebrated Label powder. The additional advantages attributed to this new powder are those of not smearing the barrel, of producing no smoke, and of causing but little recoil.

AN OLD BUT NEAT TRICK STOPPED.

In the U. S. Circuit Court, Baltimore, in Chambers, Hon. Justice H. L. Bond, on May 28th, granted an injunction at the suit of Messrs. Lea & Perrins, against Jacob B. Levy, to restrain the latter from buying from old bottle dealers, the empty bottles, bearing the genuine labels of the plaintiffs' manufacture of Worcestershire Sauce, and after refilling the same with a spurious liquid, selling them for the genuine. Quite a large and lucrative business has been built up in this seemingly small way, very much to the injury of the genuine sauce. All of this must now stop under this decision, which reads as follows:

The plaintiffs ask the Court to enjoin Jacob B. Levy from selling, or exposing to sale, or causing or being in any way concerned in the selling or exposing to sale, or otherwise disposing of any sauce prepared for sale in the bottles of plaintiffs, or in any other bottles, or in any other way with the genuine labels of these plaintiffs, or labeled in any way with the title of Lea & Perrins' Worcestershire Sauce, or in any manner whatever from selling or exposing to sale, or causing or being in any way concerned in the selling, or otherwise disposing of any sauce purporting to be the Lea & Perrins' Worcestershire Sauce; and that the exclusive right and privilege of these plaintiffs to manufacture and sell sauce under said title may be established.

ORDER OF COURT.

The foregoing bill and exhibits having been presented, read and considered, it is ordered that a restraining order be issued as prayed in the bill, with leave to the defendant to move to dissolve such order upon giving five days' written notice of such motion to the complainants or their counsel of the time and place of such motion.

(Signed) HUGH L. BOND,
Cr. Judge.

THE EVOLUTION OF THE BAR-ROOM.

The fact may be a melancholy one, from various points of view, but nevertheless it is a fact that a very large percentage of men living in American cities habitually indulge, with greater or less moderation, in the use of alcoholic stimulants. Whether the bar-room has "come to stay" or not, is a question that does not seem to demand present discussion. It is sufficient that we recognize that it is here, with a very considerable degree of prominence, and that we note in its evolution from the bar-room of our ancestors at least one ominous change—apart from the general deterioration in the quality of the liquor. That change is in the presence of an astonishing variety of drugs and nostrums, simple and compound, that now constitute a necessary part of the bar-keeper's battery, in all first-class places for the retailing of liquors. In old times the bar-room seldom trespassed further on the province of the drug store than by possession of a few bottles of peppermint, "hot drops," wahoo berries in rum, gin and tanzy, and that awful liquid abomination, gin and rue. Then came in a variety of "stomach bitters," ostentatiously advertised to (when used in conjunction with enough liquor to make

a man "feel good") banish from the human system, temporarily, at least, all consciousness of physical ills. From them the progression was easy. Now the bar-keeper assumes the prerogatives of a prescribing chemist, and with a wide range of tonics, excitants, sedatives, diuretics, etc.—many of them deadly poisons—make up the prescriptions that he confidently recommends to his patrons. Strychnia, the tincture of aconite root, morphine, hydrate of chloral, and a variety of other toxic drugs are thus habitually dispensed. Where the bar-keeper does not venture to go so far, he at least keeps on hand compounded syrups, nominally preparations of phosphorus, but actually largely dependent upon quinine and strychnine for their effect; and elixirs of valerianate of ammonia, calisaya, or other drugs, in themselves harmless, but loaded for bar use with morphine, cocaine, or other more powerful ingredients. There are very grave dangers in this custom, beyond the mere possibility of the bar-keeper poisoning his patrons by excessive doses of toxic drugs. One is in the cultivation of the habit of drug-taking, in itself a pernicious thing sure to have baneful results, however small its indulgence, if continuous. But that which is yet more serious is the inducing—by temporary palliatives of local symptomatic affections—of a fictitious sense of well-being and consequent neglect of much-needed constitutional treatment of the disordered system of the bar-room drug-swallower. People should learn that when their bowels are constipated and their weak, exhausted stomachs revolt against food, it is not wise to take drugs to give them false appetites, and encourage them to stuff themselves with food that their digestive organs cannot properly take care of; that when their heads ache and their nerves are shaky, it is not safe to resort to strychnia to brace up their nervous system, and aconite to affect the action of their hearts; that the causes of persistent insomnia are too deep to be reached by steadily increasing doses of chloral or bromide of potassium; that a spoonful of taraxicum in a glass of whiskey is by no means a sure cure for a torpid liver; and that the bar-keeper is a perilous guide through the mazes and pitfalls of renal disorders. It will be well for the sensible man when he realizes that he is "out of order," instead of going to the bar-room for a dose that will "fix him up," to severely leave that locality alone. As a general rule, his immediate want is for a cathartic medicine, something that will operate mildly but promptly and effectively upon his liver, and for that he can take nothing better than Ayer's Pills. Then, if he has even the slightest reason to believe that there is yet any lack of the proper functional operation of his digestive, assimilative and excretory organs, let him take, in the small and regular doses prescribed, a bottle or two of Ayer's Sarsaparilla. The breaking out of any pimples, pustules or rash; dyspeptic symptoms, headaches languor, pains in the back, bad breath and constipation, are all indications that this medicine is what he needs. And, if he attends to himself in time, that is all he will need for restoration of health. As for the bar-keeper's drug battery, let him remember the warning sign in a Western mill: "Don't monkey with the buz-saw."

BUSINESS NOTES.

FOR TIRED BRAIN

use Horsford's Acid Phosphate. Dr. O. C. Stout, Syracuse, N. Y., says: "I gave it to one patient who was unable to transact the most ordinary business, because his brain was 'tired and confused' upon the least mental exertion. Immediate benefit and ultimate recovery followed."

THE GREAT ESSENTIAL.

"Nature's chief master-piece is writing well,"
And if the reader would with pen excel,
To gain success his first essential then
Must be to use an Esterbrook Steel Pen.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Armand Hummel & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

Descriptive Pamphlet Free.

RUMFORD CHEMICAL WORKS,
PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION:—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

HANDY TO AMUSEMENTS AND SHOPPING.

When in New York stop at the Sturtevant House, Broadway, cor, 29th Street; it is finely furnished and the prices are reasonable. You won't regret it. Matthews & Pierson, Props.—*Bulletin*.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.
Use Woodbury's Facial Soap. By Mail, 50 cts.

LEA & PERRINS' SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GENTLEMAN at Madras, to his brother at WORCESTER, May, 1851.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most wholesome sauce that is made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

THE LABORATORY.

To Inventors, Manufacturers and Applicants for Patents

The AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable.

Address, AMERICAN ANALYST,
19 Park Place, N. Y.

Sura Cura ROBINSON'S SURE CURE FOR RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

GOOD SOLICITORS

For Advertisements or Subscriptions can hear of something to their advantage by applying to this office.

GOOD ADVERTISING AGENT WANTED,

Address, ANALYST PUBLISHING CO., 19 Park Place, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION,** NEW YORK.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.
By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,
By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price.	Analyst.		Price including Regular American Price.	Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

STEWART CERAMIC CO.,

312 PEARL ST., Cor. Peck Slip, NEW YORK.

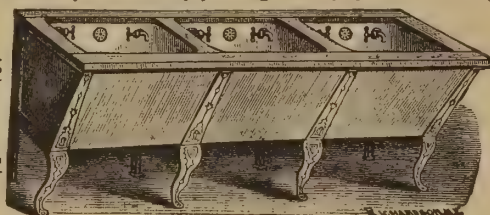
Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.

VERY STRONG.



This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists,

Send for Illustrations and Price Lists.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST**, a good advertising medium. Why should not you?

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

A NEW USE

FOR

LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In *dyspepsia* and *loss of appetite* its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis* and other wasting diseases, *Nervous Prostration*, *Constipation*, *Inanition*, *Malnutrition*, *Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.

Acidi Phosphorici aa, grains, ss.

Antipyrin.

Ext. Apii. Grav. dulc. (Celery), aa grains, j.

Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in *Headaches*, *Neuralgia*, *Insomnia*, *Neurasthenia* and general *Nervous Irritability*, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISHER'S PRICE.	WITH DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.). Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Narcotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Loading Numbers: 14,048,128, 130, 135, 333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

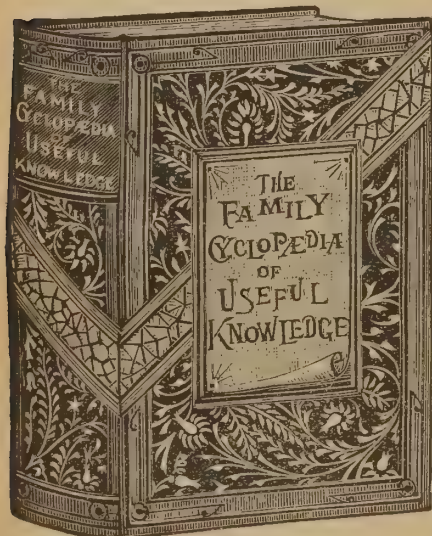


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

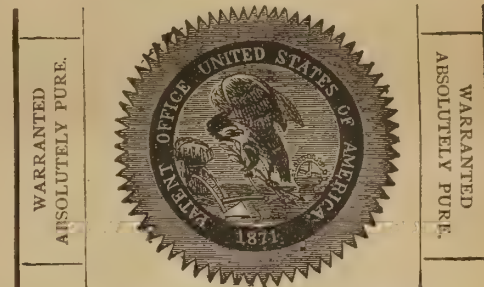
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

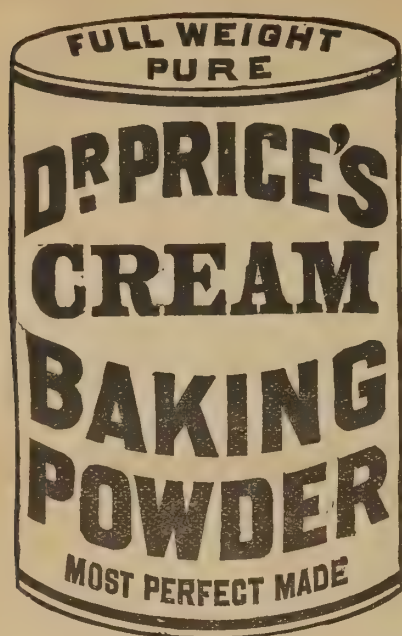
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest, and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in cans.
PRICE BAKING POWDER CO.
NEW YORK. CHICAGO. ST. LOUIS.

COLDEN'S LIQUID BEEF TONIC.

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fused Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M.D., F.R.S., and an endorsement by SIR ERASMUS WILSON, F.R.S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)". It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

See that Rugged Baby!

Is there anything in the world more pleasing? It is the duty of every mother and nurse to see that the child has proper nourishment. If you haven't tried

RIDGE'S FOOD

make a test, and see if you regret it.

STERLING BAKING POWDER



MADE FROM
99% PURE CREAM TARTAR.
This powder never varies. A marvel of purity, strength and wholesomeness. More economical than the ordinary kinds. SOLD ONLY IN CANS.
STERLING MANUFACTURING CO.,
12 & 14 Spruce St., New York.

"BILLET"

are

Carefully Selected

French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872. GELATINE.

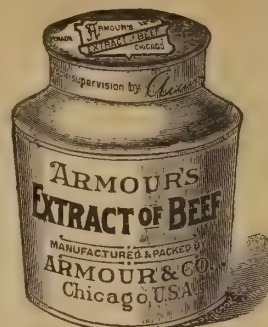
JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed by the Medical Profession for

INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 24.

NEW YORK, THURSDAY, JUNE 13, 1889.

WHOLE No. 120.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,
H. LASSING, M. D., } Editors.
T. P. McELRATH, }
No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Aches of Head and Heart.....	281
Brains in Trade.....	281
Champagnes.....	282
Cleaning Clothes.....	279
Domestic Dietetics.....	282
Duration of Life.....	278
Editorials.....	278
The Johnstown Calamity; Holiday Inconveniences; A Census of Births and Deaths; An Indefinite Alter- native; Fromentine; Value of Ginseng.	
Infection by Contact.....	278
Man's Progress.....	279
Milk in Health.....	280
Pigs in Clover.....	281
Pure Food Again.....	282
Water, Pure.....	280
Wrong Man Shot.....	279

THE JOHNSTOWN CALAMITY.

A thrill of sympathetic horror swept over the community on June 1st when the morning papers announced that on the previous day a flood had washed away the town of Johnstown, Pa., involving the lives of probably several hundred persons in the catastrophe. But the whole civilized world has stood aghast at the later information from the scene of the disaster which showed, not merely the extinction of an active manufacturing town, but the loss of many thousands of lives, under anguishing circumstances which have no parallel in at least our national history. At the present writing, nearly a week after the awful occurrence, but slight headway has been made in clearing away the wreck caused by the flood, and the whole loss of human life has not yet been ascertained. It is computed, however, by the best local authorities as reaching to between twelve and fifteen thousand, of whom fully two thou-

sand were burned to death while imprisoned in a stack of ruins which had been whirled by the resistless current against a railroad bridge, where they lodged and caught fire. No such overwhelming catastrophe has ever before occurred in America as this, in which thousands of lives were destroyed under such tragic and terrible circumstances by flood and flame, annihilating at a blow thousands of happy homes, and wiping out of existence a group of populous villages, constituting a great industrial centre. Language is inadequate to describe the anguishing horrors of the dire event by which thus suddenly one of the most peaceful and picturesque nooks of the Alleghanies has been converted into a vast tomb. As the calamity was without precedent, so likewise has been the nation's response of sympathy and aid, upward of one and a half millions of dollars having been subscribed for the relief of the survivors in the brief space of five days. Large contributions also have been wired from across the Atlantic. Thus while the forces of nature are incessantly and relentlessly operating in the direction of change and destruction, the heart of humanity is ever ready to interpose its impulses to stay the tide of suffering set in flow by powers beyond its reach to grapple with or counteract.

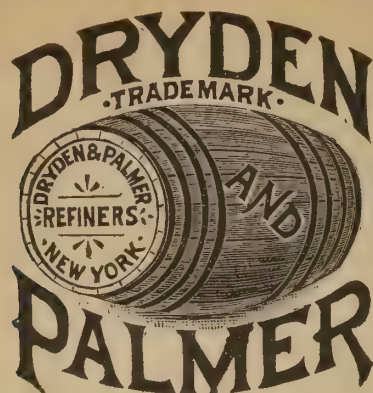
HOLIDAY INCONVENIENCES.

It is a familiar saying that we Americans do not have half enough holidays. Possibly, considered from the standpoint of some European nations, which boast that they have more holidays on their calendars than there are days in the year, we are deficient in that respect. It is probable, however, at the same time that we have more holidays than we are popularly credited with. In New York State particularly this seems to be the case, though the fact is brought to the consciousness of the heads of business firms more distinctly than it is impressed upon that of the general public. As at present regulated, a large proportion of our legally established holidays are contrived rather for the inconvenience of employers than for the enjoyment of the employees, whom, of course, it was the purpose of the law-makers to especially benefit. The list of days in the year that are practically *dies non* in relation to banking matters and the collection of business paper is somewhat noteworthy. Beginning with Christmas and New Year's Day, there are Washington's Birthday, Decoration Day, the Fourth of July, Election Day, Thanksgiving Day and Labor Day, in addition to which, under existing laws, every Saturday in the year, so far as it concerns the details of banking business, is virtually a holiday owing to the conditions arising out of the legal closing of that day at noon. Thus there are in New York 60 days in the year besides the 52 Sundays, or 102 days out of 365 on which notes, acceptances and time bills of exchange cannot be collected. On Saturday forenoon sight bills and checks may be presented up to 12 o'clock, but everything else in business paper falling due that day or Sunday is put off until Monday, and

when Monday is a holiday, until Tuesday, a delay of three days from the due date. Of course this system has operated from the very outset adversely to the interests of all our large commercial houses, and the inconvenience is reflected down the entire length of every avenue of trade. Little or no business in the way of trade is accomplished on Saturdays, except by the up-town retail establishments, whose activity on Saturday afternoons through the greater part of the year is in palpable defiance of the spirit and intent of the law, though not of its letter. At first many manufacturing establishments closed altogether on Saturday, as it did not pay to run half a day, but after a while they opened all the day as usual before the law was passed. Most of our stores are opened without reference to the holiday provisions, as the law only applies to the collection of business paper, and does not prohibit or take notice of any other form of labor. The law has not relieved workmen of any of their burdens. Where labor is suspended, the laborer is only paid for the time he works. Before the law all workmen were released at an earlier hour on Saturday, but paid for a full day. Now, even if they are engaged on Saturday, unless they work all day, they are paid for only half a day. Those who are released do not benefit by the respite, the saloons profiting chiefly by the enforced leisure. Some demagogues may have scored a point, but the public has not derived the expected benefit.

A CENSUS OF BIRTHS AND DEATHS.

An announcement has been made by the Department of the Interior which will afford satisfaction to the public, and especially to the medical profession, that Dr. John S. Billings, Surgeon U. S. Army, has consented to take charge of the report on the mortality and vital statistics of the United States as returned by the eleventh census, to be taken in 1890. As the United States has no system of registration of vital statistics, such as is relied upon by other civilized nations for the purpose of ascertaining the actual movement of population, our census affords the only opportunity of obtaining near an approximate estimate of the birth and death rates of much the larger part of the country, which is entirely unprovided with any satisfactory system of State and municipal registration. In view of this, the Census Office, during the month of May just past, issued to the medical profession throughout the country "Physician's Registers" for the purpose of obtaining more accurate returns of deaths than it is possible for the enumerators to make. It is earnestly hoped that physicians in every part of the country will co-operate with the Census Office in this important work. The record should be kept from June 1, 1889, to May 31, 1890. Nearly 26,000 of these registration books were filled up and returned to the office in 1880, and nearly all of them used for statistical purposes. It is hoped that double this number will be obtained for the eleventh census. Physicians not receiving registers can



ROCK CANDY and ROCK CANDY SYRUPS.

For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

obtain them by sending their names and addresses to the Census Office, and, with the register, an official envelope which requires no stamp will be provided for their return to Washington. If all medical and surgical practitioners throughout the country will lend their aid, the mortality and vital statistics of the eleventh census will be more comprehensive and complete than they have ever been. Every physician should take a personal pride in having this report as full and accurate as it is possible to make it. It should be noted that the department promises that all information obtained through this source shall be held strictly confidential.

AN INDEFINITE ALTERNATIVE.

There seems to be a widely prevalent uncertainty among writers of the English language as to the selection of a proper indefinite article to precede an aspirated word. Thus, many writers of otherwise fair judgment feel themselves constrained to use the word "an" before almost every word beginning with an "h," while others appear to be wandering in a maze of uncertainty on the subject. The *Medical Era*, in its last issue, for instance, calls attention to the circumstance that the *N. Y. Medical Times* says "an homeopathist;" while Judge Barrett, in his recent much-criticised decision, says "a homeopathic physician." To which the *Era* adds: "We think the judge can give the editor pointers on the use of the English language. How would it sound, for instance, to say 'an horse?'" It would not sound well, yet there are plenty of writers, not of Cockney birth either, who would write it "an horse"—or, if they should not use that expression, would be at a loss to explain why they selected the other. Grammatically considered, the accepted custom in this country is to use the article "a" before a consonant and a sounded "h," as in the word "horse," cited by our contemporary. Many English writers, however, and conspicuously Macaulay, use "an" before "h" not silent in those cases where the word is accented on the second syllable, as "an hotel," "an historical event"—which might give countenance to such an expression as "an homeopathist," that word being practically accented on its second syllable. But the consensus of literary taste does not sustain this principle, the better expression seeming to be "a hotel," "a harangue," etc. A similar difficulty attends those words beginning with a vowel, which are pronounced as if they began with "y," as ewe, European, useful. Some writers use "an" before such words, but "a" is preferable, as "a ewe," "a European custom," etc. In cases of this kind usage makes the law, and the best authorities in the language sustain the views above stated.

FROMENTINE.

A French chemist named Beaumetz exhibited at a recent meeting of the Paris Academy of Medicine a new alimentary substance, which he names fromentine. It is obtained from wheat by the aid of special mill-stones, and is really the embryo of the wheat reduced to flour. It contains three times more nitrogenous substance than meat, and a large proportion of sugar. It is thought that it may advantageously replace powdered meat as a concentrated food. It may be employed for making soups, and even for making biscuits.

VALUE OF GINSENG.

The absurdly exaggerated respect, amounting to veneration, in which ginseng is held by the Chinese has long been a source of wonder to Western barbarians, the most enlightened of whom can find no medicinal virtues in the plant, but a paragraph in the *North China Mail*, taken from the official report of the military governor of Kirin, in Manchuria, caps the climax. This official states that he had forwarded, for the use of the Emperor, by special commissioners, eight large and sixteen small roots of ginseng, weighing altogether about nine and four-tenth ounces. The total cost thereof is stated to be 1,560 taels, or about \$2,000, being at the rate of \$215 per ounce.

Dr. Francis Wyatt, who is conducting with marked success, a Laboratory of Industrial Chemistry at No. 24 Park Place—opposite the office of the *AMERICAN ANALYST*—has taken into partnership Dr. August Wein-gaertner, a gentleman well and favorably known in scientific circles in this city. The professional business of the laboratory will in future be conducted under their immediate joint supervision, their specialties being expert chemical and microscopical examination of foods, drinks and drugs, analysis of fertilizers, alkali, bleaching powder, ores, minerals and natural and industrial products of every description.

DURATION OF LIFE.

INCREASING LONGEVITY OF MANKIND IN MODERN TIMES.

Dr. Todd, President of the Georgia State Medical Society, read at the annual meeting of that body, held at Atlanta recently, a paper on "Longevity," which possesses great intrinsic interest and at the same time is gratifying as showing how much medical and sanitary science and a more rational mode of life have done to prolong the human span, and how much better in every way are the conditions of to-day than of those "good old times" for the return of which sentimentalists vainly sigh. The Doctor is modest in his claims, making no effort to monopolize in the name of the medical profession credit for a betterment in which so many agencies play parts; but he does claim, and with reason, that the intelligent physician has had much to do with the result, and that the death rates of the various peoples of the globe bears a ratio very nearly inverse to the number of qualified physicians among them. The highest death rate in Europe is that of Russia, ranging from 20 per thousand in Courland and 22 per thousand in the Baltic province, there being many physicians in both districts, to 49 in places where there are but few. But one-half of the children born in some parts of Russia reach the seventh year, and of 1,000 male children only from 480 to 490 reach the age of 21 years, and of these only 375 are able-bodied. Russia, with all its teeming population, has only 15,414 regular physicians, and one surgeon to 100,000 population. The United States, having a doctor of medicine for every 600 population, shows the lowest death rate in the world, England following. The average life expectancy in the United States is now 55 years; in England among the urban population it is

50, and among the ruralists 54 years plus. Russians have a life expectancy of but 28 years, approximately, and Chilians of the same, while in Ellobed, in the Soudan, 23 years is a generation. The average life in the Rome of the Caesars was 18 years; now it is 40 years. Within 50 years the average in France has increased from 28 to 45½ years, and in the days of Queen Elizabeth the English average was but 20 years. Dr. Todd ascribes the great and progressive change for the better to advanced medical knowledge, better drainage and diet, greater cleanliness, and to vaccination and the use of anesthetics, quinine and the like. He thinks that quinine alone has added two years to the average life of civilized man. To these agencies should be added the decrease of war, the more lenient laws, and the greater temperance of our day.

INFECTION BY CONTACT.

A COMMON DANGER THAT SHOULD BE STRICTLY GUARDED AGAINST.

In connection with the warnings which the *AMERICAN ANALYST* has repeatedly given regarding the danger of infection in books, the following from the *Sanitary News* will be found to be timely and significant:

From the number of cases reported of infectious diseases that have been communicated through articles that have been in the possession of those afflicted with such diseases, it would seem that greater attention should be given this matter. The virulence of many disease germs has been shown to be of long life, capable of being transmitted through many years. Cases of scarlet fever, diphtheria, and typhoid fever have been reported in which the infection was communicated by articles that had been possessed by the sick years before. While the matter has not been fully and systematically investigated, many cases have been reported to show that in such articles lie great danger. In cases of small-pox and yellow-fever infection by this means is considered well enough founded and dangerous enough to make the destruction of clothing and all articles exposed to infection imperative by a general law of health departments. If such articles are not burned, they must be subjected to disinfection by steam at a high temperature. The danger of infection from these diseases is more noticeable on account of their epidemic nature and great fatality. Other less fatal diseases bear the same general law of infection, and in the aggregate—in their continuous and silent work—reap a greater harvest of death than do the epidemics that make charnel houses of our cities in a day. When we recognize the great extent to which infection is liable from this source, we cannot but express surprise that some means of investigation has not been instituted to discover at least the liability of such infection and its extent. Our public and circulating libraries, "second-hand" book, clothing, furniture and other stores, are all means by which disease germs could be communicated. Dealing in "second-hand" goods has grown to such an extent that almost all communities have representatives in their midst. One can scarcely go through a city without passing these stores and finding the sidewalks lined with their goods. The purchaser knows nothing about his goods. They are most generally brought to him; a price is agreed upon, and that is all there is of it. The articles may have been the possessions of a scarlet fever or small-pox patient, but it is all the same. Take the article of clothing. Goods may be on the tables of the "second-hand" dealer or broker which could have hung in the room of one afflicted with some infectious disease for weeks, and no one who may want to purchase, or even the dealer himself, know of it. Or there may be the furniture, or even the bed and bedding on which the patient lay. Who can say that all of these outbreaks of infectious diseases which have been called "spontaneous" have not had their origin from this source?

Cases are reported, and seem well-authenticated, in which scarlet fever and diphtheria have been carried from one house to another by birds in gathering material for nests from the premises of the afflicted house and depositing it on the window-caps of the other. If this is true, is it not reasonable to suppose that any contact with such infected articles is dangerous? Probably the most danger lies in books. With most patients there is a time in their sickness when they want books with which they want to pass the hours of convalescence. The home library seldom is sufficient, and the public or circulating library is resorted to. The book goes from the patient's into another's hands, bearing all the seeds of disease of which it is capable. Either there is danger of communicating disease in this way, or the germ theory is a failure. This matter has been deemed of such importance that in many European countries extensive investigations are being made regarding the infectiousness of books handled by the sick. The investigation should extend to all "second-hand" goods, and be conducted with great care and minuteness. In Denmark and Norway the process of disinfection now in use is said to be effective without doing any damage to the books. It is used in many of the circulating libraries and book-stores, and consists in placing the books, fully opened out, in a suitable compartment, and subjecting them to dry, hot steam of the temperature of 100 deg. C. for several hours. Clothing and all other articles once used should be subjected to some sure process of disinfection before they are allowed to be placed on sale, or in any way exposed. Phthisis is said to be communicated by sweepings from carpets in the rooms occupied by such patients, yet "second-hand" carpets are not only placed on sale, but hung out of store windows and displayed on the sidewalks, and no one knows how contaminated they may be from the expectorations of the consumptive. It seems that investigation could find many important and interesting facts in this field.

MAN'S PROGRESS.

THE RACE ADVANCING INSTEAD OF DETERIORATING WITH CIVILIZATION.

A favorite theme with the dyspeptic pessimists, and even common with gentlemen not usually of the cerulean habit, is the physical degeneracy of the human race. This complaint is not at all recent; indeed, it is probably as old as the second generation of men, but it does not require more than a cursory investigation to prove that it is fallacious, as in truth natural law would indicate it to be. In any competitive examination the Homeric heroes and other legendary notables are of course barred out. The strength of Ajax, hurling vast rocks through the groaning air, and the speed of the flying Atalanta, are just as creditable as the lung capacity of Boreas, or the amphibious powers of Neptune and his attendants. We have only to deal with authentic characters, and here the modern need not fear comparison. The exquisite figures of Phidias and Praxiteles are matched in flesh and blood among the athletes of the nineteenth century, as any one familiar with the thews and sinews of our modern gladiators can attest. Of the sports of the Olympic games, pugilism has descended to us, and we have so respectable an authority as Mr. Dana, of the New York *Sun*, deposing that Mr. Sullivan, of Boston, before his unequal contests with that greater John, John Barleycorn, could with his naked fists have vanquished the stoutest Grecian boxer, armed with the crushing cestus, that ever wore the olive wreath. In wrestling, and in foot-racing too, the present day has its champions, the equals of any that ever lived. In the matter of physical endurance, the Roman legionary has been held as far outstripping modern competition. It is true that the Roman soldier, inured from boyhood to the exercise of arms, was capable of great things, but the English

armies in India, in Egypt, and in other parts of the world, have displayed quite as much heroic fortitude and endurance as ever did the veteran legions of the Cæsars; and in his capacity for enduring and suffering, the explorer of the Arctic solitudes or the African wilds, has no parallel in the annals of antiquity. The skill of Caracalla, who severed the neck of the ostrich in full career with his crescent-headed arrows, was certainly admirable, but it was no greater than that of the English yeoman who cleft the willow wand at a hundred yards, or of the Caribbean savage who pierces the floating turtle's back by shooting his arrow in a parabolic curve; and the frontiersman, who strikes the coin from between his comrade's fingers with a rifle bullet, shows an equal finesse with a superior weapon. The Thracian barbarian, Maximin, who ran all day beside the horse of the Emperor Severus, and who was destined himself for imperial honors, filled the Roman with astonishment, but he did no more than the North American Indian runner often does, and only that which is the daily labor of the Japanese palanquin bearer. Hannibal led his army across the Alps, and carried dismay into Italy by his unprecedented feat, but Napoleon did the same thing, and dragged his cannon after him. Such instances can be multiplied indefinitely, and they all point to one conclusion, that the physical degeneracy of the present man is purely mythical. This sighing over past greatness and present incapacity has existed in all climes and under every condition of mankind. The luxuriant fancy of the Orient has far surpassed the colder imaginations of the West in this subject, for we find in the Hindoo traditions that among other departed blessings, time was when the age of common mortals was 80,000 to 100,000 years, and one peculiarly venerable character, who lived in a pure and virtuous antiquity, was made king when he was 2,000,000 years old, reigned 4,300,000 years, and then, resigning his government, rounded out the circle of life with a period of 100,000 years spent in quiet retirement. Those gentlemen who regretfully deplore "these degenerate days" are moved by the spirit of the Eastern sages, but to a less grotesque degree. Our present civilization, by nursing into a precarious manhood the cripple and the starveling who would have perished in a ruder age, may give a factor of weakness to the race, but this defect is far outweighed by those added comforts of modern existence that have increased the span of life fully sixteen per cent. beyond the longevity of earlier times. There is a significance in this greater duration of human life that is not at first apparent; it means an addition of sixteen per cent. to the brain and muscle power of humanity; an augmentation of human energy, and a saving in that most wasteful thing, human death, that has done more than anything else to make possible the wonderful advances on all lines of material progress that make the nineteenth century the most wonderful epoch in history.

CLEANING CLOTHES.

HOW TO RESTORE THE FRESHNESS OF WORN CLOTHING.

It is a mystery to many people how the scourers of old clothes can make them almost as good as new. Take, for instance, a shiny old coat, vest, or pair of pants of broadcloth, cassimere or diagonal. The scourer makes a strong, warm soap-suds, and plunges the garment into it, sousses it up and down, rubs the dirty places, if necessary puts it through a second suds, then rinses it through several waters, and hangs it to dry on the line. When nearly dry, he takes it in, rolls it up for an hour or two, and then presses it. An old cotton cloth is laid on the outside of the coat, and the iron passed over that until the wrinkles are out; but the iron is removed before the steam ceases to rise from the goods, else they would be shiny. Wrinkles that are obstinate are removed by laying a wet cloth over them, and passing the iron over that. If any shiny places

are seen, they are treated as the wrinkles are; the iron is lifted, while the full cloud of steam rises, and brings the nap up with it. Cloth should always have a suds made specially for it, as if that which has been used for white cotton or woolen clothes, lint will be left in the water, and cling to the cloth. In this manner we have known the same coat and pantaloons to be renewed time and again, and have all the look and feel of new garments. Good broadcloth and its fellow-cloths will bear many washings, and look better every time because of them.

THE WRONG MAN SHOT.

THE LAST WISHES OF THE DECEASED WERE FAITHFULLY CARRIED OUT.

Brander Mathews tells a good story of the ethical influence of the East on the wild and woolly West, says the *Washington Post*. A young Bostonian, reared beneath the brow of Beacon Hill and educated at Harvard, went to Texas and turned cowboy. He caught rapidly the spirit of the country, and as rapidly shook off the outward semblance of tenderfooted Eastern habit. Rough-bearded and leather-clad, sombrero as wide as the widest, 42-calibre Colts on his hips, he was wild as the wildest. Yet within his manly bosom still burned the flame of Boston culture and refinement. One day he was riding with a stranger across the prairie. Turning his head suddenly (he was slightly ahead), he saw his companion make a suspicious move toward his hip pocket. Without hesitation he drew his revolver and shot him. The stranger dropped like a log. The cowboy dismounted and looked at the body of his victim.

"I wonder if he was really going to shoot me?" he soliloquized. "I'll see." Turning the body over he discovered a flask of whiskey protruding from the pocket.

"Poor fellow!" said he, in a tone of regret, "I've made a mistake. I've killed an innocent man, and a gentleman at that. He wasn't going to shoot me; he was going to invite me to drink. Well," he sighed, drawing his sleeve across his mouth, "the last wishes of the deceased shall be respected."

A BIRD'S-EYE VIEW.—A novel idea has been put into execution in the machinery hall of the Paris Exposition, with a view of facilitating the circulation of visitors in the vast building. Two traveling platforms, sixty feet long, and capable of carrying ten tons each, are mounted upon the latticed iron girders that connect the columns carrying the shafting. Visitors will be admitted on payment to these platforms, which will be caused to traverse up and down the machinery hall by electric transmission. Access to the platforms will be obtained by elevators placed at each end of the machinery hall.

THE ANIMAL CURE.—At Reinickendorf, a village near Berlin, it is reported by *Building*, a consumptive sanitarium is to be erected on a novel plan, utilizing the supposed therapeutic influence of association with certain animals. A large cylindrical building will be occupied in the upper part by the patients, while the ground floor will be given up to the accommodation of large numbers of milch cows, the exhalations from which will be conducted to the apartments above. A whey and buttermilk diet will also be contributed by the under boarders.

HARD WOODS.—The relative hardness of woods is calculated by the hickory, which is the toughest. Estimating that at 100, we get for pignut hickory 86; white oak, 84; white ash, 77; dogwood, 74; scrub oak, 73; white hazel, 72; apple tree, 70; red oak, 69; white beech, 65; black walnut, 65; black birch, 62; yellow and black oak, 60; hard maple, 56; white elm, 53; red cedar, 56; cherry, 55; yellow pine, 53; chestnut, 52; yellow poplar, 51; butternut and white birch, 43; and white pine, 35. According to this formula, woods possessing a degree of hardness equal to only about 40 per cent., or less than that of hickory, should not be classed as hard woods. Such woods are, however, limited in quantity, and are not of sufficient importance to justify a classification, and the trade will continue to construe hard wood to mean everything except white pine.

PURE WATER.

ANOTHER UTTERANCE ON THE SUBJECT OF FILTERS.

At a recent meeting of the Maryland State Board of Health, held in Baltimore, Dr. Chancellor, who has been investigating sanitary improvements in Europe, read a report of his observations, from which we condense, for the readers of the AMERICAN ANALYST, the following points relative to the purification of drinking water:

The season of the year is now approaching when the domestic water filter becomes an institution of no little importance. It should be so, of course, all the year round, but summer temperature tends to develop whatever potency for mischief water impurities may possess, while, as a rule, cold tends to avert some of the mischiefs of impurity. Householders who derive their water supply from public works, as is the case with all Baltimore, ought, properly speaking, to have no trouble with filtration of their water. It ought to reach them perfectly fit for drinking; but, if one may rely on the smell of our drinking water at certain seasons, it is far from being at all times free from noxious matters, even when it leaves the reservoirs, and the community has to submit for a short time every summer to this domestic abomination; and thus it will be until the supply is filtered at the plumbing house, or before it is delivered in the mains, as is the case with the water supply of London and nearly every European city. The water supply of Antwerp—drawn from a filthy river—is filtered through beds of spongy iron, gravel and black oxide of manganese before being delivered to consumers, and the result of more than two years constant running has to a great extent confirmed the expectations formed respecting the spongy iron filtration. The water was not varied in brightness or quality, and the filtering beds seem to be nearly unaltered. Under the circumstances attending our present water supply in Baltimore, every house would do well not only to boil the water used for dietetic purposes, but also to set up a good filter, and, what is perhaps of even greater importance, to take care that it continues to be a good one. It is a very common and a very dangerous assumption that a filter is a filter, and, once set up, may be relied on for an indefinite period. Another delusion is the so-called "self-cleansing" filter. It is much better not to filter water at all than to believe in such precepts. There can be no hesitation in assuming that the result of the purification must be in a ratio to the care bestowed on the filter. The material in domestic filters should be readily accessible in all their parts for cleaning and renewing, more especially if vegetable or animal charcoal is used; for, although this material may prove satisfactory for a short time as a chemical purifier of water, both chemists and biologists are agreed that its use in the purification of drinking water is attended with much risk; and since the progress of science has revealed the deadly action of living zymotic poisons which occur in contaminated water, another and a much more serious danger through the use of charcoal has shown itself. The commissioners on "rivers' pollution" in England have thus expressed their views: "The property which charcoal possesses in a high degree of favoring the growth of the low forms of organic life is a serious drawback to its use as a filtering medium for potable water." From what has been said, it is quite evident that no organic substance can be employed with safety as a filtering material, and, therefore, the discovery and production of a perfect mineral filtering material is a matter of great sanitary importance. The material which presents the largest surface for the occlusion of oxygen in the smallest cubical space is the most powerful purifier and filterer, provided it is composed of the proper substance. Spongy platinum fulfils these conditions best, and is consequently the most powerful purifier and filterer, and the best insoluble oxidizer known. Its enormous price, however, shuts it altogether out from practical use, and spongy iron has been used in its stead. But a better and cheaper filtering material than spongy iron

has very recently been produced in England, and is now being produced in that country on a larger scale for both public and private filters. This substance, which is known as "magnetic ferrous carbide," is absolutely and entirely free from contamination with animal or vegetable matter, and contains no poisonous metals. The admixture of this substance with sand or gravel forms a filtering medium which purifies itself by deodorizing and disinfecting organic impurities which would otherwise contaminate such beds. The process of combustion is constantly going on in the pores of the material, and the products of that combustion are tasteless, odorless, colorless and perfectly wholesome, creating carbonic acid, with which the water becomes charged to a limited extent, rendering it sparkling, as well as palatable and wholesome, in the highest degree. Polluted water taken from the River Thames, below London Bridge, was passed through a filter composed of this material, and, on being analyzed, was found to be purer than any of the drinking waters supplied by the London water companies.

MILK AND HEALTH.

HOW TO INSURE WHOLESOME MILK.

The relation of adulterated, fermented, putrified or infected milk to the public health is a question which has assumed greater importance with the increase of knowledge of the etiology of disease. Adulteration of so necessary a food product as milk needs only to be mentioned to be condemned. It is now generally admitted that milk which has undergone fermentative and putrefactive changes, is a very frequent cause of diarrhoea in artificially-fed infants. The causative relation between certain products of the putrefaction of milk and other albumenoid substances and choleraic attacks in those ingesting them—known as picnic ice-cream poisoning, stale cream-puff poisoning, etc.—has been demonstrated, and largely through the investigations of Prof. Vaughan. The occasional dependence of epidemics, especially of scarlet fever and other contagious diseases, upon infected milk is an accepted fact. That milk from tuberculous animals may prove a source of infection has long been a prevalent belief in the profession. This belief finds expression in the axiom that a tuberculous mother should not nurse her offspring. At the French Congress for the Study of Tuberculosis, held in 1888, the opinion was strongly supported that milk from tuberculosis cows is a frequent source of infection. A case in point is that of Demme, of Berne, which was mentioned in the *Reporter*, August 18, 1888. In this case an infant artificially fed, and not hereditarily disposed to phthisis, died of tuberculosis of the mesenteric glands, as shown by the autopsy. The cow from which milk from the infant was obtained was killed, and tubercle and bacilli were found in abundance in the left lung and pleura. Bacilli were also found in milk expressed from the deepest parts of the mammary gland. The statement that the relation between bad milk and the public health is an important one is seen to rest upon a solid basis. Unquestionably, however, the question of bad milk as a cause of disease and death among infants is relatively so great as to overtop the other evil influences arising from this cause. The methods of milk supply in general use in cities do not protect the consumer against bad milk; in fact, the incentive to the honest producer and dealer is to adulterate the milk, because he is in close competition with dishonest dealers who do. A number of methods have been suggested and tried to protect the consumer and the honest dealer. Systematic inspection has done much to improve the milk supply of New York, among other cities. It is conceded that proper inspection of milk to detect adulteration, together with stringent laws for the punishment of the adulterators, are powerful factors in ensuring pure milk to the consumer. But, however much the accomplishment of this end is to be desired, it really solves but a part of the problem. Milk

which has undergone putrefactive changes, or which contains the contagium of scarlatina or the bacillus of tuberculosis, is far more to be dreaded than milk which contains an undue percentage of water. The method of delivering milk in sealed bottles or glass cans is advocated and practised quite extensively. In Philadelphia the method has been employed by Dr. J. Cheston Morris and others. In 1884, Dr. Morris read a paper before the Social Science Association of Philadelphia, in which he advocated the general adoption of this method of milk delivery. It is claimed for the method that since the seal is placed upon the bottle at the dairy, the consumer is protected against the dishonest retailer; and since the producer's name appears upon each bottle, the demand for his brand depends solely upon its quality. Hence the producer has a constant incentive to furnish a good quality of milk. On the other hand, it is urged that the multiplicity of milk vessels increases the probability of the use of unclean vessels, and that the liability of milk to be a means of propagating the infectious diseases is increased by the method, since the vessels are left at houses indiscriminately, whether their inmates are suffering from contagious diseases or not; also that no protection is afforded against tuberculosis. Prof. Vaughan, so well known for his researches in connection with the putrefaction of milk, has formulated certain rules, which, if followed, would ensure a supply of good milk, though the spread of the contagious diseases and tuberculosis by means of milk might not be prevented. These rules comprise the exclusion of diseased cattle from dairies, provision for the sanitary condition of stables, exclusion of improper food, and cleanliness of the cattle. In this way good milk is secured. In order that it may be good when delivered to the consumer, it is to be strained in perfectly sweet and clean cans, and chilled by being placed in running water or ice water until its temperature is at or below 65 deg. Fahr. During this time the milk must be exposed to the air; only refrigerator cars must be used in its transshipment; and its temperature must never be above 65 deg. Fahr. when received by the consumer. To ensure the results sought by this method necessitates a large force of inspectors. With a supply of whole, unfermented milk ensured the consumer, the problem of preventing putrefactive changes, and of destroying the germs of tuberculosis or the contagium of the exanthemata, is probably solved by sterilization with heat. The usual method of boiling milk in open vessels probably destroys any germs it contains—the germs of disease as well as those of fermentation; but the method is open to objections. It is necessary to pour the milk into other vessels; thus it is freely exposed to the air and fermentation is favored. Practically, Caille has found that "store milk," after being boiled in an open vessel, when placed in an open dish in an ice-box "turned" after eighteen hours; and that good "bottled milk" treated in the same way "turned" in twenty-six hours; and that the same milk when left standing in an open room with a temperature of 75 deg. Fahr. had a distinct sour taste and smell after from eight to fifteen hours. Milk boiled under pressure in small bottles for thirty minutes and left in the bottles remained good eighteen days. The very superior results obtained by boiling the milk under pressure would indicate this as the most desirable method. The method followed and the apparatus used by Caille were those of Soxhlet. The method is intended more especially for the sterilization of milk for infant feeding in private families. The apparatus is very simple and inexpensive. Practically, the method consists in putting milk into five or six ounce bottles, into which a perforated rubber cork is inserted. The bottles are put in a water bath and the water raised to the boiling point. Glass stoppers are then inserted in the perforated rubber corks and the boiling process is continued for twenty minutes. This method and apparatus are largely used in Munich and Southern Germany, and to a certain extent in this country. It appears that the principle involved in this method is so simple that it

could easily be applied to the milk supply of a city. In discussing this method of supplying milk in sealed bottles, it was found that the two objections to the method were the greater probability of milk contamination from unclean vessels, and the danger of spreading contagious diseases from house to house. These objections would be overcome by boiling the bottles after cleaning them, and sterilizing the milk in the bottles before sealing them. Milk so prepared could not cause diarrhoea or cholera infantum, or be the means of spreading tuberculosis or any one of the infectious diseases.

ACHES OF HEAD AND HEART.

THE BRAIN DEMANDS REST, WHILE THE HEART NEEDS EXERCISE.

There are a good many kinds of headache. In these days the nervous headache is a very distinct variety. It is generally in the front of the head, across the forehead, over the eyes. But it may be in other parts—at the top of the head, at one or both sides, at the back, or all over. It is painful, depressing, disabling. A man feels, at the height of the paroxysm, like a hunter who has galloped his legs clean off, and who could not leap a three-foot ditch to save his life. The spur is of no use, neither is the whip. The pain in the head is worse to bear than either, and the patient will rather endure both whip and spur than make any kind of effort which will make the head pain worse. Physic by itself is of no use. There is not a single drug known to medical science which will of itself at once and permanently cure a nervous headache. On the other hand, drugs are not always needed. A complete change of air and circumstances will usually take away the pain in ten or twelve hours. Perfect rest, of a duration proportioned to the severity and long continuance of the symptoms, will make the cure permanent. There are, of course, methods of relieving or diminishing the pain until such time as it may be possible to obtain the complete rest. But the rest is the thing to be secured at all costs. If not, the pain goes from bad to worse, and the risk from less to greater. The final consequence it is impossible to predict, except that a breakdown is sooner or later inevitable, and the breakdown may be for a year or for a lifetime. A nervous headache is a danger signal; if it be frequent, the danger is increased; if it be continuous, a catastrophe is imminent. The driver must put on his brake at all hazards, or he will probably soon have a leap for his life. There are very few sets of circumstances in which it is a man's duty to go on with his work when he is in this condition, at all risks. Even a threatened bankruptcy had better be risked than a threatened life. Besides, a man who is in the unyielding grip of a permanent nervous headache is not really the best judge of his own circumstances. He magnifies and distorts things amazingly. He takes counsel of his fears, and abandons his hopes and courage altogether. Rest, we repeat—immediate and sufficient rest—is the sovereign remedy. A fortnight at once may be better than a year six weeks hence. A weak heart seems to be decidedly more practically inconvenient than a weak head. If a man or a woman be a little feeble about the region of the brain, it is generally of little moment. Some post or other will be provided if the conduct be respectable; and lack of brains is too common to excite any particular attention either in the person concerned or in those about him. But a weak heart insists upon putting itself in evidence at all sorts of convenient and inconvenient times. If its possessor finds himself rather late for his morning train and makes a "spurt" to recover lost time, the exertion is usually followed by such a "bad quarter of an hour" that he resolves in future rather to lose a dozen trains than to risk temporary suffocation or permanent syncope again. The practical evils which are associated with a feeble heart are innumerable, and will readily suggest themselves to those who possess so unsatisfactory a pumping engine. Weak

hearts are by no means so common as is often supposed. Many a man who thinks he has got one is merely dyspeptic; many a woman owes her symptoms to tight lacing or insufficient feeding. If the dyspepsia be cured, or the tight lacing be dispensed with, the symptoms of heart weakness will disappear. Even when the heart is genuinely "weak," the weakness is not always due to special disease of that organ. It may be only part of a general weakness of the whole system, which is easily curable. The late Sir Robert Christison, one of the most eminent of British physicians, used to smile at certain persons who were always complaining of weak hearts. "Gentlemen," he would say to his students when lecturing on digitalis, "gentlemen, the best tonic for a weak heart is a good brisk walk." Not a doubt of it. The majority of weak, flabby hearts are weak and flabby because every other muscle in the body is weak and flabby, and this general weakness and flabbiness is due to want of vigorous use. Exercise of the legs and back and arms gives additional and much-needed exercise to the heart, and the heart grows strong by vigorous exercise exactly as every other muscular organ does, for the heart is a muscle. If a man has no organic disease of the heart, no enlargement and no functional disorder, plenty of brisk walking, with occasional running, will soon dispel his breathlessness and heart weakness, other things being equal. The muscular inactivity of the modern town man is the parent of more ill-health than any other single cause whatever.

PIGS IN CLOVER.

SCIENTIFIC ORIGIN OF THE POPULAR AND AMUSING PUZZLE.

The "Pigs in Clover" puzzle had a rather curious scientific origin. A student of physiological psychology named Martenfeldt, while making researches in some determinations of the sensitiveness of the tactile sense under the direction of Helmholtz, the great German investigator, found that the ability to balance a marble on a perfectly smooth piece of plate glass depended upon the delicacy of what is known as the reaction time, that is, depends upon the quickness or the nerve current in receiving the impression that the marble will roll, sending the impression to the controlling organs in the cerebellum that contract or relax the muscles of the arm, and the degree of responsiveness in the nervous end organs of the fingers which hold the piece of glass. Martenfeldt found that if he placed the marble in the centre of the plate and marked four or five spots on the edges of the plate, and then asked the subject with which he experimented to tip the plate so that the marble would run across a particular spot, a considerable time elapsed before the subject could determine how to tip the plate to make the marble roll as required. When Martenfeldt complicated the apparatus and placed rings of pasteboard about the centre of the plate, with holes for the marble to run through, the average result of his experiments gave a remarkable psychological law. This was that the "reaction time" depended upon the size of the circles of pasteboard which made an impression upon the field of vision of the retina, and was in direct proportion to the diameter of the circles expressed in millimetres. Martenfeldt's experiments developed the fact that effects of practice and attention diminish the psycho-physical reaction time and fatigue increases it. Thus he found that the will time necessary for choice between two motions was reduced by practice, for three subjects of experiment, from .080 second to .050, from .097 second to .0535, and from .098 second to .062 respectively. For choice among five and ten possible motions the effect of practice was yet more marked; thus, with five possible choices, the will time of one person was reduced by practice from .239 second to .083; and of another, with ten possible choices, from .358 second to .094. For each single day's series of ex-

periments the time diminished faster at first than subsequently, but in many cases more distinctly on the second than on the first day of experiment. The apparatus used by Martenfeldt for his experiments got on the market as a puzzle in a curious way. Martenfeldt sent one of his plates to an American friend, Dr. Hermann Meyer, of Philadelphia, and at the doctor's house C. M. Crandall, a quick-witted business man, of Waverly, N. Y., saw it, recognized how taking a puzzle it would make if simplified, took out a patent in February, and put it on the market immediately with great success.

BRAINS IN TRADE.

IMPORTANCE OF A THOROUGH UNDERSTANDING OF DETAILS.

When a young man starts out to learn his trade and goes into a shop, totally unschooled in the manual performance of his duties in the new field of life on which he is entering, it is important that he should bear in mind this fact, viz.: That his position, so far as it relates to himself, is intrinsically an educational one, as much so as in the school or college from which he may have recently graduated. The simple performance of so many hours' work per day, while it has a certain financial measure of value to the employer, has a value to himself when properly considered that is greater than can be measured in currency. As his progress and standing in the school depended on the thorough mental understanding of each progressive step he took, so, only in a more material sense, his advance in mechanical skill and knowledge is dependent on his thoroughly understanding not only the routine detail of his work, but the why and wherefore of each operation. There always has been and probably always will be two classes of mechanics—those who stand at their bench and go through the manual motions of their work like automatic machines, with little more conception of why the results are as they are; and the other, that class of men who make no moves without knowing why and how results are obtained, and the relative importance of each step. This is the mechanical education that counts, the education that schools the mind to a clear comprehension of principles, equally with details, and leads unflinchingly to that higher field where skill, diligence, and marked ability find their natural level. The young man who, on beginning his mechanical education, realizes and acts upon these truths, will develop that ability which is not gauged by mere manual dexterity, but rather that which, when in later years he may be called to design, lay out, and superintend the work of others, will enable him to creditably fill the position. Such positions come to those who bring thought and brains as well as manual dexterity to assist them in their work. To such men we owe the improvements of the age in every branch of mechanics. It is a fact that too many mechanics work along day after day accomplishing their work by "main strength and foolishness," which is the direct and legitimate result of a lack of proper and thorough application in their earlier mechanical life. The point emphasized is, that the mind that is able, through careful training and application, to bring to bear a knowledge of principles involved, as well as execution of detail in the work, is the one that approaches that standard of ability which should be the aim of every young man who is beginning his mechanical education—his work in the shop. When he has attained this, no question of wages will ever trouble him. Such men are always wanted. The supply is not equal to the demand.—*The Stationary Engineer.*

TALKING CLOCKS.—According to a Paris paper, Edison has combined the phonograph with the clock in a most ingenious manner. Instead of striking the hour, the clock calls out, in well-modulated tones, "Dinner time," "One o'clock," "Two o'clock," &c. Workmen will be particularly pleased with a clock that tells them audibly that it is time to quit.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

June.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb.

FRUITS.—Cherries, strawberries, bananas, pineapple.

PRACTICAL RECIPES.

Cauliflower Soup.—Boil a cauliflower in salted water till tender; put a small lump of butter into a saucepan, and when hot fry half an onion in it till it is brown; then add a tablespoonful of minced raw ham, a few stalks of celery and a quart of stock. After this has boiled slowly half an hour add another quart of stock; drain the cauliflower, rub it through a sieve, add it to the soup, boil up, remove to side of range, and thicken with a little flour rubbed smooth in milk; stir up well and serve.

VEAL CUTLETS.—The cutlet should be cut as handsomely as possible, and about three-quarters of an inch in thickness; before cooking they should be well beaten with the blade of a chopper, if a proper beater be not at hand; then fry them a light brown, and send them up to table garnished with parsley, and rolls of thin-sliced, nicely fried bacon; they are with advantage coated, previous to cooking, with the yolk of an egg, and dredged with bread crumbs.

PARSNIPS.—Boil and mash two or three parsnips; add to them a well-beaten egg, a tablespoonful of flour and two of milk; season with pepper and salt, and fry in spoonfuls in butter.

CORN BREAD.—Sift into a large pan a quart of yellow corn meal, and add a teaspoonful of salt; mix with the meal a pint of rich unskimmed boiling milk, enough to make a soft dough, and add half a pint of sweet fresh butter; beat up five eggs into a foam; stir them gradually into the mixture and let it cool. With the same sort of butter grease some tin pans two or three inches deep and four inches square; fill the pans to the top so that they will rise and puff up when baking; bake them a golden brown, split and butter them while hot, and immediately serve.

RICE MUFFINS.—One pint sifted flour, two heaping teaspoonfuls Horsford's baking powder, and a little salt; thoroughly mix together; then add one cupful cold boiled rice, two eggs, one tablespoonful butter, and enough sweet milk to make a thick batter; bake immediately.

BEEF SALAD.—Cut into dice equal portions of cold boiled beets and potatoes; make a dressing as follows, and pour over them: Stir two ounces of butter into two of flour till it is a paste; have on the fire a pint of cream; when boiling add the flour and butter; let it boil a minute or so, stirring carefully; take off the saucepan and pour the sauce into the dish; add an ounce of butter; stir till cold; season to taste with salt, pepper, vinegar, mustard, lemon juice, pickle, onion, etc. Serve.

OYSTER PATTIES.—Line some small patty-pans with a fine puff paste; put a piece of bread into each, cover with paste and bake them. While they are baking, take some oysters, beard them, and cut the remainder up into

small pieces; place them in a tosser, with a very small portion of grated nutmeg, a very little white pepper and salt, a morsel of lemon peel cut as small as possible, a little cream, and a little of the oyster liquor; simmer it a few minutes; then remove the bread from the patties, and put in the mixture.

PURE FOOD AGAIN.

THE ANTI-ADULTERATION MOVEMENT REVIVED IN
ILLINOIS.

A bill to prohibit the adulteration of food has been introduced in the Illinois Legislature which is causing considerable alarm among the manufacturers of food products and the wholesale grocers of the State. It is supported by the Granger element, and is said to have good prospects of passing both houses. The Chicago wholesale grocers are opposing the bill with might and main, on the ground that it will interfere with their trade with adjoining States. Their competitors in States possessing no laws restricting the traffic in adulterated goods would, they claim, be able to drive them out of business or confine them to the comparatively limited territory within the borders of Illinois. This would be a great hardship, indeed, and their opposition is natural, and should not be regarded as a proof of hostility to pure food *per se*. If this bill becomes a law, Illinois food manufacturers and dealers will perhaps not suffer so severely as they fear. Their State is not the only one in the West that is seeking pure food, and we believe several States enjoy legislation preventing the sale of adulterated food except when honestly labeled. Much, however, will depend upon the manner in which these State enactments are executed. Experience has shown that the mere passage of laws does not insure the purity of the public supply of food. This State has an anti-adulteration law, but the sale of adulterated food is not restricted one whit by it; there appears to be a lack of public interest in the measure, our people evidently believing that the price governs quality and that the demand for pure food is not greater than the supply. But this indifference of the public in some States makes it bad for manufacturers and wholesalers in States in which the laws are properly executed, as they cannot hope to compete with rivals who are in no danger of interference with their sale or manufacture of sophisticated goods. The State of New Jersey has, we believe, a pure food law very similar to that of the State of New York, and until quite recently a similar laxity prevailed there regarding its execution. But the New Jersey Food Commissioner appears to be an energetic man, and determined to carry out the provisions of the State food laws. He is after the sellers of adulterated food with a sharp stick, and, though he tempers his assiduity with a merciful regard for the interests of the innocent retailer, the consequences of the crusade will be highly important to the trade throughout the State. While insisting that dealers shall strictly comply with the provisions of the law, he offers to analyze, free of cost, samples of suspected goods, and will not prosecute until fair warning has been given. The wide difference in the legislation affecting business in the different States and in the manner of executing the same must inevitably hamper inter-State commerce very seriously, and it is a question whether the benefit derived by the public from the safeguards thus placed around its food supply fully compensates for the inconvenience caused by the deleterious effect upon trade. The National Pure Food Bill, however, offers a means of relief from the unequal manner in which the State pure food laws are executed, as it will prevent the inter-State transportation of adulterated food unless honestly labeled or otherwise marked. The spread of the anti-adulteration agitation among the Western States will, no doubt, give a sufficient impetus to the movement for national legislation as to insure the passage of the National Pure Food Law at the next session of Congress.—*Merchants' Review*.

[Reprinted, by Request, from the AMERICAN ANALYST of
May 30.]

CHAMPAGNES.

AN UNJUST AND UNTRUE COMPARISON.

One of our large dailies has lent itself to an abuse of American wines in the shape of an interview with Mr. G. H. Von Mumm, one of the owners of the Mumm brand. After puffing his personal appearance, titanic proportions and brilliancy as a conversationalist, it puts these words in his mouth. We reproduce them that they may be fully answered:

There is one point upon which he is not an enthusiast, however, and that point is America as a champagne-producing country. He told a reporter the other day that he feared this country would never be celebrated for its champagne. "I am told," said he, "that there are people here who inject carbonic acid gas into still wines by means of machinery, and call the produce champagne. Such practices are abominable, but they deceive only the ignorant. There are many reasons why your grape-growers cannot produce champagne, the principal one being found in the nature of the soil, which, as you know, has everything to do with the effervescent quality of the wine. In the Province of Champagne the soil is of chalk mixed with silica and light clay and oxide of iron in varying proportions. These properties in the soil give to the grape its effervescent qualities. So far as I have been able to learn, you have no soil of this description over here. Another cause of your failure to produce good wine is the youth of your vineyards and the fact that they are insufficiently cultivated. The older the vine, the better the wine. In a hundred years from now your wines will be better; in a thousand years, good. The vineyards in Champagne are divided into hundreds of very small tracts, each tract having its owner. There are no large vineyards under one proprietor. This fact accounts for the careful cultivation the vines receive and have been receiving for hundreds of years. Then, again, champagne-making requires long experience and a large capital. The leading manufacturers have on hand in bottles and casks stored away in their cellars thousands of gallons of wines of former vintages. This they must have for "blending" purposes. If, for instance, the wine of this year should be of an inferior quality, we would blend or mix it with a wine of a previous year to give it the desired flavor. A different blend must be made for each market. In America you require a very dry wine, in England a semi-dry wine is demanded, while in Russia a sweet wine is the proper thing. To suit these varying tastes experience is required, as well as a stock of material to carry out its dictates. There is not, as many suppose, a very large profit in the manufacture of champagne. I am told that popular opinion places our profit at about \$10 a case. One dollar is much nearer the mark. There are seasons in which we lose money on every case of wine we sell. This happens when the vintage is inferior. In such cases we must take the wine from the producer whether we can use it for champagne or not, in order to retain their friendship and keep other houses from weaning them away from us. At the same time, because of those who buy our wines, we must keep up its quality by the use of old stock worth many times its weight in gold. The inferior wine we sell for less than it costs us to makers of claret and low wines. The last-named objections to America as a champagne country may be overcome, but the quality of the soil never. You cannot grow a wine in Champagne which will produce Madeira, nor can you produce champagne from grapes grown in Madeira. How, then, can you deem it possible for a man in California to buy a hillside, divide it into two parts, upon one of which he will produce champagne and upon the other Madeira? And yet I'm told they claim to do it."

Mr. Mumm ingeniously tries to convey the untruthful impression that all American champagnes are made effervescent by the addition of carbonic acid gas, while he knows perfectly well that there are several American champagnes which are made precisely as his wine is made, and in the case of one American brand, Arpad Haraszthy & Co.'s Eclipse, with better and more uniform results. He also retails the very old story about California soil, spiced up with the foolish remark that the effervescent quality of the wine depends upon the soil, when every child knows that the natural carbonic acid gas of champagne is the product of the saccharine matter it contains. Then a ridiculous fling at the youth of our vineyards is made to cover up the well-known fact that France was dependent upon our youthful but healthy

American vines to replace their effete phylloxera-eaten vines. With an amount of candor, surprising from him, like a grain of gold in a heap of sand, he admits that the champagne manufacturers of Europe do not own vineyards, but depend upon small vine-growers for their supplies for blending, and that when they get inferior wines, as they frequently do, they blend them with better grades, but they all go in. He also admitted that these foreign champagnes are all doctored to suit the varying tastes of different nationalities. The subject of profits on such wines also received attention. A profit of ten dollars a case was strenuously denied, and the allegation that one dollar came nearer the truth is what we are supposed to be gullible enough to believe. How they can afford to maintain expensive salesmen with several thousands dollars a month for treating purposes, pay a heavy bonus to barkeepers on corks and other well-known extravagances on one dollar a case, is evidently like one of Dundreary's puzzles. His final allegation that in California men try to raise champagne on one side of a hill and Madeira on the other is too ridiculous to require notice. To raise such miserable stuff as Mr. Von Mumm admits he uses to blend for his champagne does not need much of a vineyard. Let our German friend take a trip to California and try to look at things as they are. He will conclude that California is large enough to enable us to have a crop of grapes somewhere in its large area that will not need skillful "doctoring" to make honest and non-poisonous champagne.

MERCIFUL PROVIDENCE.—A Kansas man had a comparatively easy death the other day. He expired just as he entered a railroad eating-house. Five minutes later he might have tackled a railroad sandwich. Providence is merciful.

Subscriptions \$1 per year. Now is the time to subscribe.

SCIENCE IN WARFARE.—The Italian papers report that an electric theodolite, which indicates with mathematical precision the position of an enemy's ship, whether at anchor or in movement, has been set up at Maddalena. The battery, which defends the island of Capra, is situated in a valley separated from the sea by a high hill. On this is placed electric machinery communicating with the battery. There is also a very small "panorama" indicating the position of hostile ships, their direction, their distance from the battery, and the point to which the firing should be directed.

MUSK BUOYS.—Artificial, or rather cultivated, musk, if we may believe what seems to be a very well-authenticated statement, appears to be a thing of the near future. The announcement is made that at the laboratory of the Gesundheitsamt in Berlin a Japanese physician named Kitaisato, a pupil of Koch, has isolated a microbe from an infusion of hay which has the property of producing a powerful odor of musk. The microbe can be cultivated in any of the nutrient media, but thrives best on the potato and the rice preparation. The cultures are at first reddish in color, afterward becoming rust or tile-colored. When the cultures are exhausted with alcohol, the latter possesses the odor of tincture of musk.

SPANISH OIL.—The exports of olive oil from Spanish ports having been on the decline for several years, the Spanish government has taken hold of the matter, and started an investigation as to causes for the decay of the industry. The commission found that the main cause was the inferior quality of the oil produced, the same being far below the standard of the French and Italian makers. The cause of the inferiority was found to be twofold—a deterioration of the trees from long inattention, to the modern methods of culture, and also in the crude and inferior methods of extracting the oil from the berries. It is proposed to remedy both causes of decay by the adoption of a system of technical education which shall embrace the teaching of the best method of culture of the olive trees, and also modern and improved methods of extracting the oil. In this manner it is hoped that Spanish oil will once more regain its ancient reputation, and the olive raisers of Spain re-enter the field of competition with those of France and Italy.

To Subscribers, Readers and Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION OF THE BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

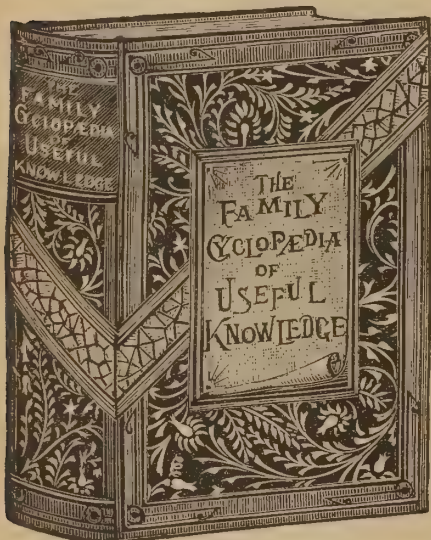
Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Subscriptions \$1 per year Now is the time to subscribe.

Ask Grocers for our Patent Barley **CRYSTALS**, a new, unrivalled Cereal Food, for Breakfast Tea & Dessert. If not sold there, write us for free samples. **GLUTEN FLOUR** and **SPECIAL DIABETIC FOOD** are invaluable waste-repairing flours for **Dyspepsia, Diabetes, Debility & Children's Food.** No bran; mainly free from starch. For all family uses nothing equals our **HEALTH FLOUR.** Send for circular offering 4 lbs. free. **FARWELL & RHINES, Props., Watertown, N.Y.**

Tabasco Pepper Sauce

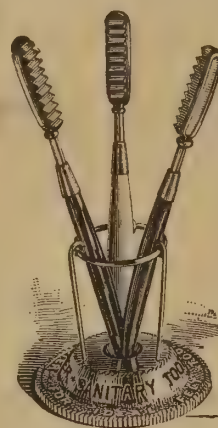
OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.



IF YOU ARE SICK and cannot raise your head, use the IDEAL FELT Tooth Polisher

to greatly add to your comfort.

If you are **WELL** and would enjoy life's fullest blessings, use it to increase your health and happiness. If you live in **Society** use it to improve your appearance. If you live in **Solitude** use it to preserve your teeth. If you are **Rich** it will make you richer. If you are **Poor** it will save you money.

WHATEVER YOUR AGE OR CONDITION YOU CANNOT AFFORD TO BE WITHOUT IT.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Armand Harcourt & Co.

Producers of the

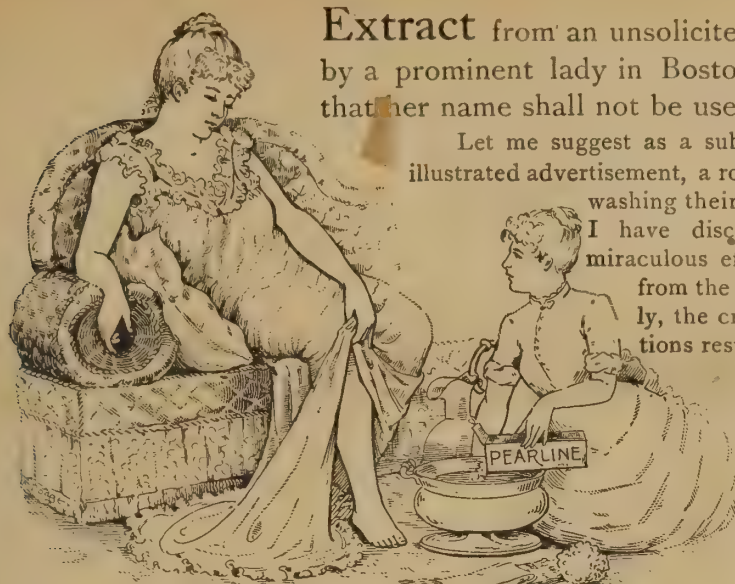
ECLIPSE

CHAMPAGNE,

530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.



Extract from an unsolicited letter written by a prominent lady in Boston, who requests that her name shall not be used.

Let me suggest as a subject for your next illustrated advertisement, a row of young misses washing their feet with Pearline. I have discovered its almost miraculous effects in removing from the feet, almost instantly, the creak and discolorations resulting from the prevalent fashion of wearing black and other dark colored stockings—even black silk stockings creak as they never used to.

Pearline is for the toilet—bath—laundry—house-cleaning—washing dishes—in fact for any purpose for which soap is required PEARLINE still stands without a rival. It is as harmless as the finest imported castile soap; but beware of imitations.

140

JAMES PYLE, New York.

LATEST ACHIEVEMENT IN

**Celluloid
Collars,**



**Cuffs
and
Bosoms.**

GEO. CLEMENT & CO.

The Celluloid Company confidently assert that they have attained the highest improvement in their Waterproof Collars, Cuffs, and Bosoms, which has ever been reached in this line of waterproof goods. We have examined their latest improvements, and tested them by every means at our command. We are convinced that they have never been excelled, and we are ready to give them our heartiest indorsement. They are pliable, most durable of any goods on the market, and resemble linen more perfectly than any waterproof imitation. Some strangers who have little acquaintance with these goods are under the impression that celluloid is an explosive material. This is an entirely erroneous idea. We can hold celluloid upon the hottest argand burner, and it will melt, but never ignite. The linen interlining makes it much stronger than any other goods in this line. We shall be glad to have any and all of our former patrons try these goods and write us their opinion of the same.

A full assortment of Celluloid Collar Buttons at 5 cents each by mail, post paid; and Cuff Buttons from 25 cts., to \$1.00 per pair by mail. These buttons are durable and never tarnish the Collars and Cuffs.

CELLULOID COLLARS and CUFFS cost no more than linen—look better and wear longer. They never wilt from perspiration, are always white, clean and fresh; require no laundrying—are manufactured in all the leading styles for both Ladies and Gents, Girls and Boys. When soiled, simply wipe them off with soap and water. They save their cost in a week's wear. Try them.

Keep this for reference. CELLULOID COLLARS and CUFFS are as economical and desirable as represented. Can always obtain the same FREE OF POSTAGE, at the following prices:

Gents' Collars,	25 cts.	6 for.....	\$1 30—\$2 25 Doz.
" Cuffs,	50 "	6 "	2 75—4 75 "
Ladies' Collars,	15 "	6 "	85—1 50 "
" Cuffs,	30 "	6 "	1 70—3 00 "
Small Bosoms,	50 "		
Large "	75 "		

Remit by postal order, check, or stamps.



Be sure this trade mark appears on the all goods you purchase.

Address: GEO. CLEMENT & CO., 33 East 22d Street, New York City.

WE ARE STOP THERE.

A very pleasant, convenient and popular hotel is the Sturtevant House, New York. Matthews & Pierson, Proprietors.—Express.



BLAIR'S PILLS

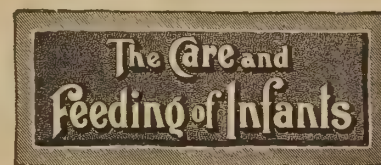
Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills. At all druggists, and 224 William St., New York



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

**DEAN'S PATENT
ARDENTER MUSTARD.**

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only THREE possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppel's Malt Extract. **WILLIAM ROBERTS, M.D., F.R.S.**

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. **R. H. CRITTENDEN.**

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alternatives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptonine.	MALTO-VIBURNUM.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis, sby 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST,

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct

him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE

RECAMIER FG. Co., 52 and 54 Park Place, New York City.



LADIES

Enamel your Ranges twice a year, tops once a week and you have the finest-polished stove in the world. For sale by all Grocers and Stove Dealers.

GORDON & DILWORTH

MANUFACTURING PURVEYORS
Established 1847

ALIMENTARY PRODUCTS
ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS
GORDON & DILWORTH
563 & 565
TABLE DELICACIES
GREENWICH ST.
NEW YORK
OLIVES, CAPERS, CATSUP, MINCE MEAT, PLUM PUDDING, SALAD DRESSING

CHOICE & DESSERTS
OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S

CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism, Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

1 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

73 William Street, N. Y.

Pure  BEER,
LAGER BEER

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBSAND
PRIVATE FAMILIES
BY

Beadleston & Woerz
291 W. 10th St. New York.

Orders by Postal Card 
 promptly attended to.

LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



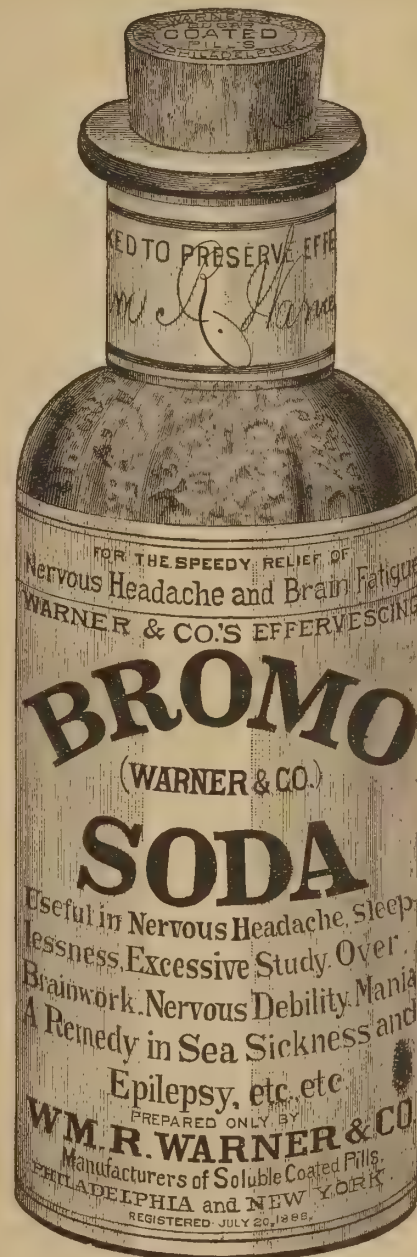
Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.

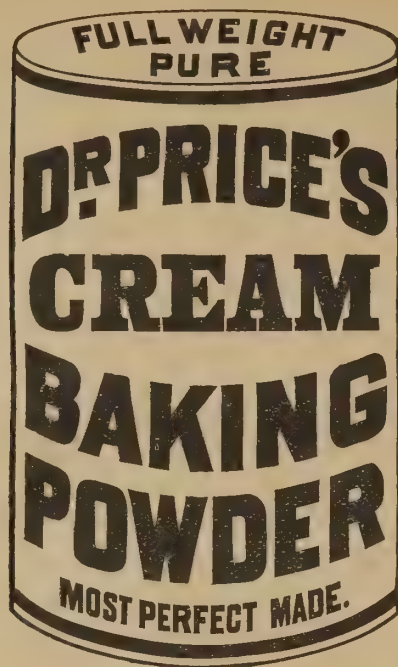


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

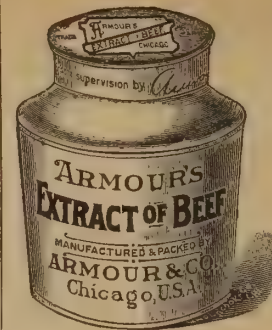
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,

DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

LIQUID

BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 25.

NEW YORK, THURSDAY, JUNE 20, 1889.

WHOLE No. 121.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Artificial Silk.....	292
Boys' Appetites.....	291
Domestic Dietetics.....	293
Editorials.....	289
American Corn in European Soil; Wanted—American Apprentices; Our Water Supply; A Supporter of Oleo; The Protection of our Boys; Transmission of Tuber- culosis.....	293
Germ in Water.....	293
Insomnia.....	292
Life and Sunlight.....	290
Micro-organisms.....	291
Sanitary Science.....	292
Tendencies of the Times.....	292
Three Hundred Years Ago.....	292
Water, Pure.....	290

AMERICAN CORN IN EUROPEAN SOIL.

We took occasion some months ago to call attention to the possible advantages that might be gained by means of a conspicuous and well-handled exhibit at the French Exposition, this year, of our great American product, Indian corn. In view of the universal culture of that inestimable cereal in this country, and the almost infinite variety of uses to which it is adapted as a food product for man and animals, it is certainly remarkable that economists on the other side of the Atlantic should be so ignorant of its value. It is encouraging to observe that the suggestion which the AMERICAN ANALYST was the first to propose is likely to be carried into practical operation. We read in the *Caterer* that "an attempt is being made to create a demand in Europe for Indian corn as food by a special American exhibit at the Paris Exhibition. A proper exposition of the innumerable uses to which this vegeta-

ble may be put is expected to have results of immense value to the corn-growing industry of this country. It is only in the States that corn may be said to be an article of table consumption. If the French can be convinced by actual demonstration that they have been neglecting a cheap, healthful and highly palatable article of food, they may set a fashion that will spread all over Europe, and give American farmers a better market for their principal cereal crop." The proposition, naturally, meets with the earnest approval of the vegetarian school of philosophers and the London exponent of that fraternity, the *Vegetarian Messenger*, in order to facilitate the raising of corn in Great Britain, imparts in its June issue the subjoined instructions for its cultivation, quoted from Beeton's "Dictionary of Gardening." The raising of corn in flower pots for subsequent transplanting would strike the majority of American farmers as a rather finical way of dallying with a product which under their management usually exhibits a sturdy capacity for self-assertion. This is Beeton's advice to English corn planters: "Select a warm, sheltered situation, and trench deeply, adding a liberal dressing of well-rotted manure. Sow in pots in April, or in the open ground in May, but, except in very favorable localities, the plants succeed best if raised under glass, and planted out when the weather becomes warm and settled. If raised in pots, be careful to keep the plants strong and stalky, hardening them by giving air freely on fine days. When planted out, water freely till the roots have got hold of the fresh soil, and also in dry, hot weather keep the surface of the ground from weeds, and in an open state, by frequent hoeings."

WANTED—AMERICAN APPRENTICES.

The action of the trades unions in restricting the number of apprentices that can be employed in workshops and in learning the various trades is exciting increasing disapprobation as its injurious effects are becoming more noticeable. The newspaper press has an important function to fulfill in exposing and overturning this anti-American scheme. Several of our contemporaries are vigorously engaged in the work, and if the subject is thoroughly and intelligently discussed, the time cannot be far off when our American lads shall have the privilege restored to them of earning their living in the same occupations as are followed by their fathers. The right to earn a living by honest labor is as fundamental as any other natural right of man. But when the trades are hedged about with rules which limit the number of apprentices, when the lists are complete, and when the ranks of unskilled labor are full, then the surplus boys are deprived of all chance. There is then no place for them. When the trades unions set up their rules limiting the number of apprentices to be taught their trades in any shop, it was intended to prevent the reduction of wages that would ensue from an over-supply of skilled labor. But the rule has not had that effect. All that it has accomplished has been to prevent the sons of Americans,

native and adopted, from learning their fathers' trades. Our workshops have not fewer mechanics in them than if there had never been a rule against apprentices. Skilled workmen were needed, and, the natural supply being insufficient, the employers readily secured them from Europe. They are constantly getting from over the sea skilled workmen, who come here to take the places which the sons of our workmen should, by every reason of policy and political economy, have a preference right to occupy. That our streets are so full of idle, vicious young and middle-aged men is largely if not chiefly due to the extinction of the apprentices in our workshops. And men who might be earning from \$15 to \$30 a week as skilled artisans are forced to accept salaries of from \$5 to \$10 as clerks, or salesmen, or book-keepers; or, as is too frequently the case, to live a hand-to-mouth sort of existence, doing anything or nothing indifferently, because fitted by training to do nothing skillfully.

OUR WATER SUPPLY.

New York city has a plentiful supply of good pure water, which will be soon largely increased by the completion of the new dams and aqueduct. The building of this aqueduct has been a desirable plum for the politicians, and whenever anything threatens the smooth flow of the large amounts of money expended upon the work, a hue and cry about the probable scarcity of our water supply is immediately raised. The Johnstown disaster has awakened some apprehension about the safety of the Quaker Bridge Dam on the Croton river, and as this threatened the interests of the politicians, we are promptly cautioned that there is danger of a water famine. This is apparently corroborated by the water not running on the second and third floors of houses throughout the city, excepting for two or three hours, late at night. But the public should not allow itself to be frightened on this score. This apparent scarcity is manufactured for the occasion. The valves in the gate-houses are partially shut down, and thus, the pressure of water being reduced, it does not run so freely. Our water officials of course deny this, but let them answer the simple question: If the water is not partially shut off, why does the Fire Department, in case of fire, signal for an increased pressure of water, which could not be increased if all the natural pressure were constantly allowed to flow?

A SUPPORTER OF OLEO.

Governor Bulkeley, of Connecticut, we are pleased to observe, entertains more reasonable views regarding the economic value of oleomargarine than some of his constituents. About a fortnight ago he vetoed a bill which the Legislature had just passed, compelling the coloring of oleomargarine in such a way as would render it obnoxious for use, which was a round-about measure for prohibiting its manufacture. In ex-



plaining his position, Governor Bulkeley said, and his points are deserving of close attention: "The fair interpretation of the proposed bill is that it prohibits either the manufacture or sale of an article of food commonly known as oleomargarine, the use of which as a healthy, satisfactory and economical substitute for butter has become quite universal among the industrial and laboring classes of our more populous communities. The fraudulent sale of this article is, he asserted, abundantly provided against by both National and State laws, more generously and vigorously enforced than usual, and attended with severe and increasing penalties for their violation. The admitted fact that the dairy interests of the State are unable or fail to furnish the needed supply of butter, he regarded as convincing that their interests will not be jeopardized by the continued sale of this article, which has already found for itself a place in the domestic uses of the people of that State, and that the proposed legislation is unnecessary." Notwithstanding the common sense of the Governor's views, the bill was passed over his veto by a vote of 79 to 52, a bare quorum being present.

THE PROTECTION OF OUR BOYS.

The police authorities throughout this State have been officially notified that section 270, of chapter 170 of the laws of 1889, had become a law, and that any person violating it is guilty of a misdemeanor. The section, which took effect June 1, is as follows:

1. Selling malt or spirituous liquors to any person under sixteen years of age.
2. Receiving in pledge any article of jewelry or wearing apparel from a person under sixteen.
3. Selling to any person under sixteen, cigars, cigarettes, or tobacco in any form.

In spite of the publication of the law, and the cautioning of the police officials, the selling of tobacco at least to lads under the prescribed age has not met with any perceptible check in this city. The daily newspapers, in their struggle to cover the entire field of public interest, have gradually become a skilled detective institution, not simply supplementary to but often ignoring and superseding the authorized municipal organization, and they have reported, since the law came into effect, an almost total ignoring of its provisions and requirements on the part of retail dealers. The statute was wisely framed to effect a salutary reform in the habits of the rising generation, and it should be sternly and unequivocally enforced. It would in fact have been well if our law-makers had

inserted a provision ordering the arrest of every boy under sixteen found smoking tobacco on the streets. The pernicious habit would be speedily broken up if its indulgence was not only unlawful but inflexibly certain of punishment.

TRANSMISSION OF TUBERCULOSIS.

The New York Board of Health recently asked Drs. Prudden, Biggs and Loomis, the pathologists of the department, to prepare a statement regarding the ways in which tuberculosis is transmitted to persons. Their report was made public last week. It declares that the germs are transmitted frequently through the meat and milk of infected animals. The disease is contracted also by breathing in the germs thrown off by consumptive persons in crowded rooms and cars. Better ventilation of churches, theatres and halls, the physicians think, would lessen the danger. Their conclusions are as follows: First, that tuberculosis is a distinctly preventable disease; second, that it is not directly inherited; third, that it is acquired by the direct transmission of the tubercle bacillus from the sick to the healthy usually by means of the dried and pulverized sputum floating as dust in the air. The measures, then, which are suggested for the prevention of the spread of tuberculosis are: First, the security of the public against tubercular meat and milk, attained by a system of rigid official inspection of cattle. Second, the dissemination among the people of the knowledge that every tuberculous person may be a source of actual danger to his associate, if the discharges from the lungs are not immediately destroyed or rendered harmless. Third, the careful disinfection of rooms and hospital wards that are occupied or have been occupied by phthisical patients.

LIFE AND SUNLIGHT.

THE VALUE OF SUNSHINE CHEMICALLY CONSIDERED.

That the sun sends us heat and light is obvious to every one, but the wonderful radiant energy which is constantly reaching the earth from the great central member of our system, contains other forces, some of which we recognize, and, probably, others of which we still remain in ignorance. That there is chemical or actinic power among them, every photograph is a proof, as well as the fading or darkening of dye-stuffs under their influence, and the more the subject is studied, the more complex seems the message which comes to us across the celestial spaces, without wire or battery to transmit it. The physiological and hygienic influence of sunshine cannot be doubted. Whether they are due to the actinic radiations, or to other manifestations of energy having a more positive action upon the animal organism, may be considered uncertain, but that there is such an action is a well-known fact. Vegetable life cannot exist without light. The potato sprouting in the cellar instinctively sends its shoot in the direction of the nearest crevice through which a ray of light may find its way, and the plumule of the sprouting seed, no matter in what position it may have been originally planted, grows upward towards the light and air with absolute certainty and exactitude. Every gardener knows that direct sunlight, and plenty of it, is absolutely necessary to his plants, if they are to flourish and bear flowers, and the shade of a few small trees is enough to destroy even such vigorous plants as the grasses of our lawns. Mankind are constituted with greater adaptability to varying conditions, but they, nevertheless, are dependent in a great degree on the health-giving influences of sunshine. Children raised in the dark, fog-laden atmosphere of a large city like London, are puny and sickly, and cannot obtain the bodily development and vigor of the more fortunate child of the suburban or rural districts. The inhabitants of large cities live under unfavorable conditions, and must be constantly re-

cruited from the country, in order to increase in numbers. But even in localities where sunlight is always to be obtained, its benefits are not always appreciated. Too often it is shut out from houses and living rooms, for fear of injury to carpets or upholstery. The extent of this injury is much less than is generally supposed. Most modern dyes will fade in time, and a strong light only accelerates the change in a small degree; but, in any case, it is better to have the carpets fade rather than the occupants of the room, and the health-giving action of the sunbeams, should not be dispensed with because the same action may decompose the dyes with which the furniture is colored. It is impossible to have too much sunlight or fresh air; every living room and every sleeping room, when possible, should face the south, and the radiant energy of the sun will be found to induce such a healthful and vigorous physiological action of all the organs of the body that many doctors, and druggists' bills will be saved, and, in a short time bring about that greatest blessing of life—a state of good health.—*Popular Science News.*

PURE WATER.

SOME CONSIDERATIONS ON THE DOMESTIC WATER SUPPLY.

The matter of securing a pure and wholesome supply of water, is one that is constantly receiving more and more attention. In the larger cities, water works are usually provided, which furnish an abundant supply, and, in the majority of cases, of excellent quality. In the country and smaller towns, each house-owner must look out for himself, and the question of the desirability of any given source of water, becomes a very important one. The most common sources of a supply are from rain-water cisterns, wells—both common and driven—springs, running streams and ponds. In New England, thanks to the absence of a limestone formation, the ground waters are comparatively soft, and, when not contaminated by drainage, are pure and wholesome. Rain water falling on the roofs of buildings, and collected in cisterns, is largely used in all parts of the country, and is, of course, of great purity, but the liability of the cisterns, as well as the roofs from which it is collected, to become dirty, renders it more desirable to obtain the domestic supply from some natural source, where the water is constantly exposed to the purifying influences of light and air. Undoubtedly, the best and safest source of water is from deep springs, which are almost always free from organic impurities. In populous districts, springs which flow near the surface of the earth occasionally become contaminated. Several cases of typhoid fever occurred at Lausanne, Switzerland, from the use of water from an infected spring, but such instances are rare. In most cases, the streams of water which gush forth from the hillsides, may be used with assurance of perfect safety. A large proportion of the "mineral springs," which are so celebrated for their numerous cures, prove, upon analysis, to contain little or no mineral matter whatever, and their health-giving properties must be attributed to the free use of pure water alone, aided by the influence of the imagination. There are thousands of springs in New England, which only need a well-managed "boom" to confer the most remarkable therapeutic properties upon them. Running streams come next in point of desirability, but it is evident there is a much greater possibility of contamination. In thinly settled districts, a simple inspection will usually show any danger that may exist from such a cause, and there are many streams of pure water among the hills, which, by a little simple engineering, could be made to flow directly into the kitchens of the farmhouses, and save the members of the family many tiresome journeys to the well or spring. Lakes and ponds are very numerous in New England, and usually contain water of good quality. Many of the cities and larger towns derive their

supply from such a source. The chief danger is that, as the community grows, dwellings and manufactories will be erected within the watershed of these ponds, and drain their refuse matters into them. There is a most extraordinary indifference and recklessness manifested on this point, and it is almost impossible to prevent such contamination, even by legal processes. The city of Boston has had much trouble from this cause, although, as yet, the contamination is not great enough to be a very serious matter.

The common well is the most undesirable source of all. If it is deep enough to strike a living spring of water, and removed from all sources of contamination, it may be unobjectionable, but these conditions are rarely met with in the country, and, we may say, never in large towns or cities. A well is usually placed near the house for the same reason that the barn-yard, privy and sink-drain are, but their existence in the same vicinity is incompatible with a pure and wholesome water-supply. Some even go so far as to dig the well in the cellar, and we recall the case of a refined and cultured family who actually had *both well and cess-pool* underneath their dwelling, and only a short distance apart. Such a barbarous practice is unworthy of a civilized race, but it is to be feared that a large proportion of wells are not much better situated. As to pipes for conveying water, no certain rule can be laid down. The majority of waters do not, apparently, act upon lead pipes, or else form an insoluble coating upon them, which prevents further action. In other cases the action is continuous and rapid, and lead-poisoning is likely to occur in those using the water. Pipes of compound metals—such as tin-lined lead, or galvanized (zinc-covered) iron—are even more dangerous, and should always be avoided. Iron is perfectly safe, and only has the disadvantage of sometimes introducing iron-rust into the water, to the injury of clothing that may be washed in it. This, however, is a minor disadvantage, and does not often occur. Various patterns of filters are in use, very few of which are of any value whatever. They act only as a strainer to remove the coarser impurities, but have no effect upon the microscopic bacteria, or matters held in solution, which are the most dangerous. A flannel bag is exactly as good filter as these expensive devices, and possesses the additional advantages of being easily cleaned or renewed. The most effective filters are those in which a disk of porous stone or earthenware forms the filtering material, but it is best to make sure of the original supply of water, rather than to attempt to purify it by any such uncertain methods. To sum up, we may say that the best source of water-supply is from a deep and unfailing spring; next to this running streams, large ponds, rain-water cisterns, and, last of all, deep wells, situated far away from any possible source of impurity. Driven wells are less liable to contamination than open ones, but the same objections apply to them in a lesser degree. Iron pipes are safe under all conditions, and filters are generally useless. It is often a matter of some trouble and expense to obtain a pure and abundant supply of water, but the benefits it brings will always more than repay the necessary outlay of time and money.—*Popular Science News.*

BOYS' APPETITES.

THE YOUTHFUL CRAVING FOR FOOD AN INDICATION OF HEALTH.

The relation between appetite and digestion is in general a fairly definite one. At the same time it must be allowed that this rule is largely modified by exceptions. Many persons are subject to morbid craving to eat which food cannot satisfy; and most of us know something of the appetite of idleness, or habit, or of nervous disturbance—the latter bearing a suggestive likeness to the desire for stimulants or the fragrant weed, taken to relieve mental depression. Apart from

such considerations, however, there are obvious variations in the degree of normal appetite in different individuals and at different periods of life. The man of sedentary habits cannot expect to compete with one who spends a life of movement out of doors. The man and the woman differ, so do the younger and the elder, and, in a notable degree, the boy and the man. The vigorous appetite of boyhood is virtually a synonym of health. A rate of daily consumption which would in most men be gluttony, is in young growing lads almost too common to attract notice. The explanation is not difficult when we take into account two chief conditions of existence at this age—the growth going on in every organ and tissue, and a very liberal allowance of active bodily exertion. Under the circumstances a sparing rule of diet would be unnatural and injurious. There is, of course, a limit even in childhood, which it is trite to say is often and wrongly exceeded. There is no age, however, at which this form of excess is pardonable. Whatever the surplus of food taken, most of the self-indulgent youngsters have been provided by nature with a power of disposal which may largely be relied upon to correct its consequences. Measures of restriction are more wise when they are used to regulate rather the wholesomeness of food and the times of eating than the absolute quantity consumed. It is at a later stage that we may require to apply strictly the familiar rule that one should eat to live and not live to eat. A degree of apparent Philistinism in the matter of wholesome food and drink, is in the young both usual and judicious.

MICRO-ORGANISMS.

A POPULAR EXPOSITION OF AN INTERESTING SUBJECT.

From a paper lately read before the American Academy of Medicine by Dr. Samuel R. Nelson, we make the following extracts which will be of general interest to our readers. The solution of the germ theory of disease is probably occupying a greater number of observers than any other subjects. Micro-organisms, called bacteria, comparatively unknown till within a few years, on account of their very minute size, with the improvement of the microscope, are now very closely studied. The history of these micro-organisms is related to that of spontaneous generation, to that of the fermentations, to the pathogeny and therapeutics of a great number of virulent and contagious affections; and in a more general manner to all the unknown, which notwithstanding the efforts of modern science still surrounds the origin of life and its preservation. The bacteria are the lowest of organisms, belonging to the vegetable kingdom, and are thus defined by the botanists, who have most recently occupied themselves with them: "Cells deprived of chlorophyll, of globular, oblong or cylindrical form, sometimes sinuous or twisted, reproducing themselves partly by spores and by transverse division, living isolated or in cellular families, and having affinities which approach them to the algæ, and especially to the oscillariæ." The atmosphere transports myriads of microscopic plants and animals. M. Miquel has pursued interesting studies upon them. M. Pouchet has devised the aeroscope, that bears his name, for collecting dust from the air which contains remnants of articles that we use, existing in the condition of impalpable dust, also pollen of plants, particles of mineral matter, and the spores of cryptogams, the moulds and algæ. Some micrographers have suggested that germs may be transported by the vapor of water; but Miquel's experiments show that the evaporation of water from the ground never carries any schizomycetes with it. On the other hand, dry dust, especially from hospitals, etc., is charged with micro-organisms. The greatest labors, however, have been employed concerning a different class of organisms than the algæ and moulds. The plants comprising this group, under the common designation of *bacteria*, in consequence of their extreme minuteness

and refractive power, are invisible in the preparations of the aeroscopes, and are recognized only by the higher powers of the microscope. The first observer who recognized the micro-organisms was Leeuwenhoek, as early as 1675. While examining with his magnifying glasses a drop of putrid water, the father of microscopy remarked with profound astonishment, that it contained a multitude of little globules which moved with agility. During the following year he observed the presence of bacteria in feces and in tartar from the teeth. M. Cohn is a naturalist who has occupied himself very much with the bacteria. In 1853 he published his first researches upon this subject, and twenty years later there appeared a series of "Memoirs" devoted to these organisms. In the first paper he gives an exposition of his researches upon the organization, development and classification of the bacteria, and upon their action as ferments. His classification is:

1. The sphaerobacteria, or globular bacteria.
2. The microbacteria, or rod bacteria.
3. The desmobacteria, or filamentous bacteria.
4. The spirobacteria, or spiral bacteria.

This classification has probably been accepted by more germ theorists of to-day than any other classification. The classification proposed by Koch is now quite universally accepted. The term *bacteria* is used in the general sense, including both the *micrococci*—the ball forms—and the *bacilli*—the rod forms. The smaller spherical bacteria may be confounded with various objects—*e. g.*, molecular granules, fat globules, amorphous precipitates, etc. To distinguish these pseudo-bacteria, Nageli says: "There are but three distinctive signs which enable us to recognize with some certainty that the granules under observation are organisms—spontaneous movement, multiplication, and equality of dimensions, united with regularity of form." To which may be added the action of re-agents. The atmosphere is laden with these micro-organisms. Developing in the organic infusions into which they fall, they soon determine their complete decomposition; for during their growth bacteria live upon the nutritive material, as all other plants do upon their soil. This is putrefaction, and they are always present as the cause. As is well known, bacteria are always present in some form or other in fermenting liquids. Fermentation only occurs after the access of particles from the outer world, and it is asserted by the supporters of the germ theory that these particles are organisms or their spores, and that it is by the growth of these organisms in the fermentescible material that it undergoes alteration. The essentials for the production of new forms are—a putrescible body, water and air, while heat, light and electricity favor the process.

(To be continued.)

RUBBER SUBSTITUTE.—A substitute for rubber to be known as "kelgum," has been invented by Henry Kellogg, of New Haven. It is produced from vegetable oils, which are treated so as to remove all the unctuous matter, leaving a residuum of a gummy character, very much resembling india-rubber gum, though not possessing so much of the elastic quality. As kelgum is a product of oil it is unaffected by oil. As it does not retain any unctuous matters it possesses an advantage over rubber. Neither is it affected chemically or changed by the action of heat or light. It can be vulcanized exactly as rubber is, except that it is not necessary to use sulphur. Another peculiarity of the substance is that it increases in weight instead of diminishing, as is the case with rubber. It is more durable than rubber under many conditions, as when exposed to light and heat, and also in many cases where rubber is injured by heat kelgum is not. The new substance is especially applicable to beltings, both for all kinds of machinery as well as for tapes for printing presses. It is available for sail covers or bonnets, awnings, tents, mail pouches, carriage coverings and linings, canvas shoes, trunk covers, bags and reticules, book covers and bindings, packing cloths and papers, cart sheeting, tarpaulin, shoe linings, telegraph and telephone wires and cables, under ground or in water, and insulators, roof covering, shoe soles, and numerous other purposes for which rubber is now used. A joint stock company has been organized in New Haven for the manufacture of kelgum.

INSOMNIA.

THE NEED OF VARIETY IN DOMESTIC LIFE.

Are you afflicted with insomnia? Perhaps you have too much time for sleep. Perhaps you depend too much on sleep for rest and recuperation. For sleep is not the sole rest of used-up nerves. Sociability, congeniality, and the enjoyment of good company rest the body quite as much as sleep. The dreary monotony of life in many a household, involving this tumbling into bed with the mechanical regularity of a machine at nine or ten o'clock in the evening, does not always rest weary bodies. "Early to bed and early to rise" does not always make a man healthy, wealthy or wise. Numbers of organizations are only capable of five or six hours sleep at a time, and their early lying down to rest is often succeeded by an early waking up and a consequent restless tossing for hours preceding daybreak. The practitioners of punctuality are often surprised after breaking their own cast-iron rules, and passing two or three later hours of mirth and jollity past their usual bed time, to find themselves even more refreshed in the morning than usual. The relaxation or sociability has rested them more than would sleep or an attempt to sleep. But these are conditions not so easily reached in the average family. In fashionable life we have a formal, exhausting and mechanical evening of more or less dissipation. On the other hand the evenings of great numbers of families are monotonous humdrum. They involve the assemblage of the same people, the same surroundings, the same paterfamilias yawning over his paper, and the same querulous mama overlaid with family cares. Fresh people with fresh thought, fresh atmosphere, anything to stir up and agitate the pool of domestic stagnation, are sadly needed and sadly scarce. There needs to be also a constant succession of such fresh people to bring about these results. The world is full of men and women, and in a better regulated life it would be the business after the day's work was done to entertain each other, and give each other fresh life. As it is now, hundreds if not thousands of our households are little better than cells for the incarceration of each family. Thousands are thus worn out prematurely from utter lack of domestic recreation. There might be written over the graves of hundreds of thousands, "Bored to death by the stagnation of domestic life."—*The Christian at Work.*

SANITARY SCIENCE.

IMPORTANCE OF POPULAR ENLIGHTENMENT ON THE SUBJECT.

Among the professional there is no science more popular than that of sanitation. To the laity, however, it is not as popular, or accepted with that faith and respect usually given to the science of medicine, and the older professions which have more immediately and perceptibly touched their interests and proved their practical worth. Prevention of anything is hard to discover, for we are never sure the thing prevented would have occurred had there been no preventive means employed. We can see gas burn, see the light from electricity, receive the message, hear the words over the telephone, and see the sick healed, but whatever is prevented is unobserved, and we take little notice of what might have occurred, but did not. Any science, however good its office may be, the results of which are manifested in this negative way, is much less recognizable than the science whose forces are positive. This is probably one reason why preventive medicine is slow in impressing its beneficence upon the people. Another reason is found in what the people of this country call their "personal rights." Any interference with these is resented, and whatever regulations and restrictions are deemed necessary in the support of good health are looked upon as oppressive, and as an unwarrantable abridgment of their liberties. To the

citizens of a government conceived amid the struggle for liberty, born with the inspiration of victory, and established on the glory of triumph, any encroachment on the liberty of enjoyment or habits of life is looked upon as tyranny. Such people do not trouble themselves with definitions and philosophy, and civil and personal liberty to them are the same. Nothing is so strongly resented as laws which abridge or trench on their pursuit of happiness, according to their own notions; and a law that will come right in their homes and impose restrictions, rules and regulations meets with disfavor from the very nature of things. This feeling is carried up to the legislative halls, and results in opposing boards of health, cutting down needed appropriations, and a failure to enact the necessary laws for the support of efficient health departments. Sanitary science needs popularizing among the masses. Its lessons need to come more closely to the average home, and enlighten all classes. People value health, but do not fully appreciate the means of promoting it. They, to a certain extent, are acquainted with the simple rules of hygiene, but have not been taught to value them properly. The importance of observing these simple rules is what they need be taught, and through them they will give support to health departments, by which healthy living is taught.

ARTIFICIAL SILK.

A NEW AND SINGULAR TEXTILE FABRIC.

Mr. Chardonnet has succeeded in preparing a new artificial silk—a silk which bears the same relation to the natural article as celluloid does to ivory. Its preparation is somewhat as follows: Cellulose (cotton, or whatever may be available) after being treated with a mixture of nitric and sulphuric acids in equal proportion, as for the making of gun-cotton, is dissolved in a mixture of alcohol and ether, to which is added some perchloride of iron or protochloride of tin and tannic acid. The solution thus obtained is placed in a vertical vessel terminating in a small tube or in a diaphragm pierced with fine holes, so that it can run out into a vessel full of water slightly acidulated with nitric acid. The fine fluid filament which comes out takes on immediately a more or less solid consistency, and forms a thread, which can be wound on a spool. The thread thus obtained resembles silk very closely, and is equally strong and elastic. It is not attacked by water, cold or warm, nor by the acids and alkalies moderately concentrated. By introducing into the solution coloring materials, one may obtain threads of any desired shade. This artificial silk is said to be extremely inflammable—an objection which it is hoped to overcome. It is probable that the nitric acid can be replaced by some other which will render it less combustible. When this progress has been realized, we shall have a new textile fabric of the greatest importance.

TENDENCIES OF THE TIMES.

GENERAL REPUDIATION OF CLASS DISCRIMINATION BY OUR STATE LEGISLATURES.

The Federal and State governments yielded to the hue and cry of Grangerism and followed the lead of demagogues far enough to allow a fair test of the efficacy of their remedies of public ills by arbitrary, restrictive and discriminating laws. The experiment was tried by the states in many ways, and by the nation in its anti-oleomargarine and railroad regulation laws, and the legislatures of this year give evidence of the popular recognition of failure. Bills to make State laws against oleomargarine more stringent have been rejected, and attempts to apply the same principles to other industries have failed. The movement to exclude from each State the beef of cattle slaughtered outside its limits has been defeated in the two States in which it originated, and in all others in which it was proposed except Minnesota

and Colorado, while in these States the results are already such as will operate against a repetition of this blunder and outrage by other legislatures. Many of the States have shown a disposition to adopt the more conservative views and methods of the Inter-state Commerce Commission in dealing with their railroads. Not less noteworthy has been an increased disposition to look to the experience of other States and profit by example, avoiding the errors of sister commonwealths and adopting what has proved successful in their legislation. No tendency in State law making is more promising of good results than this greater readiness to imitate what has worked well and to avoid the needless diversity and conflict of laws that has been such a serious evil. This is specially important to the greatest of the commercial commonwealths, and New York should find an incentive to improve and simplify her commercial laws in this prospect of the adoption of what is good in them by other States. We have dwelt on the brighter side of the record in recent State legislation. There is much that is dark and disappointing, and there are many evils to resist and great demand for more earnest determination among the people to see that the making of their laws is entrusted to competent hands and faithfully performed. While the demands of corrupt and selfish interests are so bold, and while fallacious theorists are sowing broadcast the seed of paternalism and governmental intervention and control as specifics for the cure of evils which can really only be aggravated by State interference, it is gratifying to see that the wider popular discussion of the principle of good government is bearing fruit in the more potent influence of more enlightened public sentiment, and that the failure of unwise and arbitrary laws is making converts to simpler, sounder principles.

THREE HUNDRED YEARS AGO.

HOW OUR BRITISH FOREFATHERS INDULGED IN PAGAN SUPERSTITIONS.

The latest report of the British Historical Manuscripts Commission, relating to manuscripts preserved at Belvoir Castle, furnishes a curious instance of the possibilities of sixteenth century medicine. From a document dated January 12, 1582, it would appear that "Richard Batte, late of Burton, next Sturton, Chirurgeon," was under suspicion of having procured to be made "a picture of waxe wherebye he would consume his wyfe's mother and all the rest of her children," his object being that "theyre lvyngs mighte come to the seyde Batte and to hys wyfe." It seems pretty evident that a "pycture of a maid" in wax had been made, information of which having been laid before "Mr. Meare of Nottingham," Mr. Batte was apprehended and his brother-in-law was bound over to "prosequite the lawe" against him. The case must, however, have proceeded very slowly, for nearly ten years after, in September, 1591, Richard Batte, Surgeon, appears under examination, trying to put a very different color upon the making of the picture and to reduce it to a bit of medical practice. He deposes that he "hath a paycent in the countrye, whose name he wyll not declare, but she ys troubled with a fluxe," and he, wishing to provide a remedy, consulted a friend as to a "cunning man that could make a proporecyon or figure of a mayde with a garlande on her hedde and a flower in her hande." The cunning man was found, who promised to make in wax artificially the figure of a maid "with her heare dyngyng syde about her shulders," for which his reward was to be an "olde angell." Batte added that it was his intention to have "put thereto the powder of a poun garnett or of the shale thereof, the powder of a synamoun, the powder of redde saunders and the powder of nutmeg, to give to hys sayde paycent to stey the flux called dysenteria. He wulde have baken the same together with pyppyns, which hys sayde paycent shalle eat." This is the last reference to the case in these documents, and the judicial decision does not appear.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

June.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb.

FRUITS.—Cherries, strawberries, bananas, pineapple.

PRACTICAL RECIPES.

CARROT SOUP.—A knuckle of veal, three or four quarts of cold water, a quart of finely sliced carrots, a head of celery. Let these ingredients boil two and a half hours; add a handful of rice; boil one hour more. Season and serve.

BROILED WHITEFISH.—Split a whitefish down the back and lay it in salted water for several hours, wipe dry, and place with flesh side down on a well-greased gridiron over a hot fire; sprinkle with salt and pepper; when brown turn on other side. When both sides are nicely browned, dish and serve.

CURRIED EGGS.—Fry two onions in butter, add a tablespoonful of curry and a pint of soup stock, and let it stew till the onions are tender; add a cup of cream or milk; thicken with a little flour or cornstarch, cook a few minutes; cut eight hard-boiled eggs in slices, add them to the stew, and stir gently until they are thoroughly heated, but do not boil.

APPLE PUDDING.—Take one pound of lump sugar and put it into a stewpan with half a pint of water, and boil till it becomes very thick; then add about two pounds of apples, peeled and cored, and the grated rind of a lemon; boil all together till it is quite stiff; keep stirring all the time; pour it into a buttered mould, and when cold turn out and serve with custard, or whipped cream poured around it.

TO STUFF GREEN PEPPERS.—Take one-half a cabbage, two onions, two tablespoonfuls of white mustard-seed, a little horse-radish, and a portion of the seeds taken from the peppers; salt it well and chop very fine. Cut out a round piece where the stem of the pepper is and stuff full of the chopped mixture. Have good vinegar very hot into which you have thrown allspice, cloves and mace, and pour over the peppers. The vinegar should be poured off and reheated and poured back over the peppers for five or six mornings.

TOMATO SAUCE FOR MEATS.—Divide a dozen tomatoes into quarters and put them in a saucepan with four onions sliced, a little parsley, thyme, cloves and a quarter of a pound of butter. Set the saucepan on the fire, stir the ingredients occasionally for three-quarters of an hour. Strain and serve hot.

WAFFLES.—One pint sweet milk, four eggs, one large cupful cold rice or hominy, a little salt, flour to make a stiff batter, Horsford's Baking Powder, in the proportion of three teaspoonfuls to a quart of flour.

PROF. BUNSEN.—Professor Wilhelm Bunsen has resigned the Chair of Chemistry at Heidelberg, which he has held since 1852. He began his career as a university teacher at Göttingen in 1833, and lectured successively at Kassel, Marburg, and Breslau. Prof. Bunsen is in his 78th year.

GERMS IN WATER.

THE EFFECTIVE PURIFICATION OF WATER BY HEATING.

Feltier in a communication recently made to the Société d'Hygiène, stated that the boiling of water as a means of destroying disease germs, is not entirely to be depended on, and has also other considerable drawbacks. The temperature of 212 deg. F. is not sufficient to destroy all the microbes. The air of the water is expelled by the effect of ebullition, and the water becomes heavy and "indigestible," the calcareous carbonates and the earthy portions in suspension are precipitated and the water is rendered disagreeable to drink. To obviate these different objections the author proposes to submit suspected water to a higher temperature than merely boiling, and the following is the manner in which this is effected: A closed metallic vessel, perfectly air-tight, being able to support a pressure of six atmospheres, is provided. At the bottom this vessel presents an enlargement, which is calculated so that by the dilation during the heating the water completely fills it. A tap placed in the lower part, surmounted by a filter, permits the drawing off of the water. When the vessel is full of water, it is placed either in a bath saturated with salt, or in a jacket into which steam is admitted. In the one case, as in the other, it is heated, and the water is thus raised to a temperature varying from 237 to 300 deg. F.

THE MANIFOLD CYCLOPEDIA.

We are glad to note the appearance of Volume XIII., of Alden's *Manifold Cyclopaedia*. It takes the work along from Electricity to Exclaim. The information is condensed, but clear, accurate, and brought down to date. There is no slighting of any points, and the more important topics are treated with admirable fullness. Thus Electricity has 34 pages; Electric Light, 6 pages; Elizabeth (Queen), about 7 pages (with a fac-simile of her signature, which is interesting if not beautiful); Emerson, 4 pages; England, about 15 pages; Engraving, about 8 pages; Ensilage, nearly 3 pages; Episcopal Church, about 7 pages; Ethnology, 10 pages. A cyclopaedia of some kind is needed in every home, and every school. This costs but little, while for general use it is far more convenient and practical than the large and very expensive works. It presents just the kind of information which is needed in everyday life. Another valuable feature is found in the illustrations, which are freely used where needed to explain the text. Thus far this series of volumes has been eminently satisfactory, and there is every reason to believe that this high standard will be maintained until the close.

"SO THEY GO."

An eminent New York physician in conversation a few days since remarked: "I have patients, who although rich already, are so absorbed in the race for more wealth that they actually will not take time to swallow the medicines necessary to keep them in health. They toil unceasingly in their offices or on 'change during the daytime, and lie awake at night planning 'operations.' A man who gets into that current notices after a while that his appetite has failed, that he has frequent violent headaches, that annoying pustules appear on his skin, that his memory is no longer to be trusted, and that in order to sleep at all he has to resort to drugs or more malt liquors than are good for him. For a time he 'braces up' on alcoholic stimulants, which give him a false appetite and fictitious nervous energy. Suddenly he realizes some day that he is 'all broke up,' and had better see a doctor; but that takes time, and it is quicker for him to rush into a drug store on his way up-town and get a lot of violent but simply purgative pills and some wickedly injurious 'nerve tonics' and 'nerve foods,' that will spur his flagging energies to a swifter pace on the road to destruction. By and bye he finds that he *must* see a doctor, and rushes to one—me, for

instance—wanting something that will fix him all right in a day or two, or perhaps before he 'starts for Chicago to-morrow night.' He might as well expect to build a new railroad or dig a ship canal in two minutes. It will be big luck for him if he ever is reasonably well again, and as to undoing speedily his ruinous work of years, it is impossible. Very reluctantly he takes in that idea and begins a serious course of medical treatment. But as soon as he begins to feel a little better he forgets to take his medicine or decides that it is a bore, and that he has had enough of it. 'The end of it all?' Oh! some of them stop in time, take a long rest and good care of themselves—probably going off to Europe to escape the temptations of business—and get back enough of the remnants of their health to give them a new lease of life. More of them keep right on until they either break down mentally with paresis or suddenly die. So they go." Those dangerous habits of life are not confined to the class of business men of whom the doctor spoke. As a people we are too "fast." It appears hopeless to ever think of reforming this national characteristic of restless energy, that relaxes only with life. The best that can be done under the circumstances is to so guard ourselves as to evade its dangers as far as possible through unremitting prudential care for our physical condition. It is well understood by every practical man that the higher the speed at which a piece of machinery is run, the greater must be the watchfulness exerted to keep it in perfect order, especially if it is of at all delicate construction. Nothing is more delicate than that greatest of all mechanisms and mysteries, the human body. If we would work it at high pressure we must protect it against the slightest deterioration or derangement of its nice adjustments. Nature will not allow us to be ignorant of its least injury, if we will but give heed to her warnings, and it depends upon ourselves whether we let her warn in vain, or intelligently make the necessary repairs before the injury so magnifies itself as to ruin the machine. There are no such things as trivial ailments of any of the vital organs which may be cured by themselves without reference to the organs directly involved with those conspicuously affected. Especially is this true of the digestive, assimilative and excretory chain of organs. Failure here in one part very speedily involves all in a perilous course of mutual and reactionary deterioration. The only safe course of treatment is that which cleanses, stimulates and strengthens all, and in so doing sustains their power to make pure and vivifying blood for the building up of healthful tissue and casting out, through natural channels, the effete matter which is the waste of life. Nothing better for this purpose is known than Ayer's Sarsaparilla, a scientific compound of the active medicinal principles of the most effective vegetable and mineral alteratives. There is no secret about its preparation. That it is composed of Honduras sarsaparilla, mandrake, yellow dock, stillingia and the iodides of potassium and iron, is fully understood by the medical profession, hence its endorsement by the best physicians. Every active brain worker, especially those of sedentary habits, should take this medicine from time to time, particularly in the spring, and it is safe to regard even seemingly trivial departures from the conditions of perfect health as nature's imperative demand for its aid.

GLASS BOTTLES.—The Heye factory for glass bottles at Gerresheim, near Düsseldorf, produces on the average 200,000 a day, and, if necessary, can turn out 300,000. From 1,800 to 3,000 men and women are regularly employed in the works, and find accommodation in the adjoining model town.

AUTOMATIC CANDLES.—A new candle has been brought out, which extinguishes itself in an hour. This it does by means of a tiny extinguisher of tin, which is fastened in the wax by wires, and which effectually performs its task. It is only necessary to remove this diminutive extinguisher when its work is done, and the candle is again ready to burn another hour.

SELF-PRESERVATION.—Giles: Old Brown must be getting generous to offer you a cigar.

Merritt: His wife recently made him a present of a box.

NEW ANTISEPTIC.—A Mr. Daniels, of Chicago, claims to have discovered a preparation which will preserve food for any length of time. It consists of a powder, the chief ingredients of which are sulphur and cinnamon. This powder, when ignited, burns slowly, and articles exposed to its fumes resist decay. One pound of the powder will preserve a ton of meat.

TEA CIGARETTES.—Tea cigarettes are said to be the latest feminine fad in the way of "mild" intoxicants. Only the choicest kinds of tea are used; and, though the fumes are not pleasant to the general public, the smokers find their nerves greatly soothed for a time. Afterward, however, the reaction takes place, and they are apt to become somewhat excited. If persevered in, theinism in its worst form must be the inevitable result.

FIRE-PROOF PAPER.—A German patent has been granted to M. Ladewigg for a much needed article—a fire and water-proof paper. It is made by mixing twenty-five parts of asbestos with twenty-five or thirty parts of aluminum sulphate, moistening with zinc chloride; and after washing, treating the pulp with a solution of one part of rosin soap and eight to ten parts of aluminum sulphate. Paper is then produced as with ordinary pulp.

HIGHEST WATER POWER HEAD.—France claims the honor of utilizing a higher water pressure than that recently put in operation in the Chollar shaft on the Comstock lode, in Nevada. At Brignoud, one and one-quarter miles from the valley of Gresivaudan, near Grenoble, a turbine 9 feet 10 inches in diameter was put in operation in the year 1875, utilizing a head of 1,638 feet. It is still working, and gives a force of 1,500 horse-power, with a flow of 75 gallons of water per second.

EDUCATION IN RUSSIA.—According to the latest educational report of 1884, only 1,466,913 of 15,000,000 children in the Russian Empire attended schools. About 90 per cent., therefore, of young Russia receive no instruction at all. In 60 governments there is only one school for secondary instruction to every 18,000 boys and 22,000 girls. Only 63 per cent. of the boys of any age to attend a public high school can be accommodated. For girls, the number of such schools is even more insignificant. The schoolmaster cannot be said to be abroad in Russia yet.

THE FLY CROP.—The common fly lays more than one hundred eggs, and the time from egg-laying to maturity is only about two weeks. Most of us have studied geometrical progression. Here we see it illustrated. Suppose one fly commences "to multiply and replenish the earth" about June 1. June 15, if all lived, would give 150. Suppose 75 of these are females; July 1 would give us, supposing no cruel wasp or other untoward circumstances to interfere, 11,259 flies. Suppose 5,625 of these are females; we might have July 15, 843,720 flies. For fear of bad dreams, we will not calculate what might be by September 15.

CHINESE RAILROADS.—In the summer of 1888, the railway between Lutai and Taku, in China, a distance of 60 miles, was opened, and in the autumn the section between Taku and Tientsin was completed. The passenger traffic on this line is said to be very active, although the trains only run at present at the rate of 20 miles an hour, as they also serve for the transport of goods. It is expected that the railway will be opened as far as Peking some time during the present year, when the Chinese capital will be reached from Tientsin in about one hour and a half. Two short lines are also being constructed in the island of Formosa, one of which runs from Kelung through the Tamsui valley.

COIN STATISTICS.—The weight and bulk of the gold and silver coin now held by the United States Treasury forms the subject of inquiry by a correspondent of a mathematical turn of mind, and he finds that the weight of the gold is 601 tons of 2,000 pounds, and the silver 8,000 tons. Packing it along the highway as cordwood is packed, the gold would make a barricade four feet high and four feet thick for a distance of 335 feet, and the silver, if similarly packed, would extend 4,248 feet, or five-sixths of a mile. If packed in carts, one ton to each cart, the procession would be nearly 33 miles long, of which distance the gold-bearing carts would cover two and a half miles, and the silver a fraction over thirty and a quarter miles.

ANXIOUS MOTHER: "I wish, Susan, that when you give baby a bath you would be careful to ascertain whether the water is at the proper temperature." Susan: "Oh, don't you worry about that, ma'am. I don't need no 'mometers. If the little one turns red, the water is too hot; if it turns blue, it's too cold; and that's all there is about it!"—*Boston Commonwealth.*

TESTS FOR DEATH.—Many tests have been suggested to determine whether or not life is extinct where death has appeared to occur. One of the most recent, and held to be one of the most reliable, is called the ammonia-hypodermic test. In using this test the operator injects one hypodermic syringe of strong solution of ammonia under the skin of the arm or some other convenient portion of the body. If the body be not dead—if there be the faintest circulation—the ammonia will produce on the skin, over the point where it was injected, a bright red patch, on the surface of which raised red spots will appear; but if there be absolute death, there will be produced a brown dark blotch, which is definitely conclusive against any possible vitality.

AIR FROM COAL.—An Englishman is credited with the discovery of a method of producing perfectly pure air from the combustion of coal. The process is very simple, and is described as follows: It consists of a brick chamber about 5x2x2 feet, built upon the ground. At one end is a feed chamber and a fuel chamber, and at the other a powerful exhaust and blast fan. Placed immediately between the chamber and the fan are baffle plates, splitting plates, a standing bridge with perforations at the back, and a hanging bridge with perforations at the front. There are also several carefully proportioned inlets to supply the exact quantity of air requisite for perfect combustion. Issuing from a fan mouth of twelve inches in diameter, comes rushing a column of hot air, marking on the pyrometer at its exit a steady, uniform temperature of 500 degrees Fahrenheit. Not a trace of smoke or fume is visible to the eye; not a taint of any kind is perceptible to the taste or smell.

AN INTERESTING ROAD.—One of the most interesting achievements in modern engineering is the electric mountain railway recently opened to the public at the Burgenstock, near Lucerne. The rails describe one grand curve formed upon an angle of 112 degrees, and the system is such that the journey is made as steadily and smoothly as upon any of the straight funicular lines. The Burgenstock is almost perpendicular—from the shore of Lake Lucerne to the Burgenstock is 1,330 feet, and it is 2,860 feet above the level of the sea. The total length of the line is 938 metres, and it commences with a gradient of 32 per cent., which is increased to 58 per cent. after the first 400 metres, this being maintained for the rest of the journey. A single pair of rails is used throughout, and the motive power (electricity) is generated by two dynamos, each of twenty-five horse-power, which are worked by a water-wheel of nominally 125 horse-power erected upon the river Aar at its mouth at Buochs, three miles away, the electric current being conducted by means of insulated copper wires. The loss in transmission is estimated at 25 per cent.

BUSINESS NOTES.

KINGSFORD'S STARCH.

When an old-established, reputable house advertises an article that has been before the public for half a century, it is safe to quote their statements, and the best proof of their goods being entitled to confidence and patronage is in the fact that none of these claims can be disproven. Kingsford's starch is the strongest, purest, best. A giant in strength; matchless in purity; incomparable in the gloss and beauty of finish it imparts to linen, etc. No other starch does such work.

Kingsford's "Silver Gloss" Starch will be found far superior to all other starches for the laundry in its wonderful strength, purity and uniformity; never varies in quality, and free from odor. Owing to its absolute purity and superior strength, it will be found more economical than the multitude of cheap starches; the best is always the cheapest. Kingsford's Starch has remained the standard for excellence for half a century. Sold all around the world.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.

Producers of the

ECLIPSE

CHAMPAGNE

530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

Descriptive Pamphlet Free.

RUMFORD CHEMICAL WORKS,
PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION:—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

ONE BLOCK FROM THE ELEVATED.

In going to New York to stay a day, a week or month, you want moderate prices and central location. The Sturtevant House, Broadway, cor. 29th St., is convenient to all amusements, and nearly 2,000 cars pass its doors daily.—*Home Journal*.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills. At all druggists, and 224 William St., New York.

FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST,
210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

THE LABORATORY.

To Inventors, Manufacturers and Applicants for Patents

The AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable.

Address, AMERICAN ANALYST,
19 Park Place, N. Y.

LEA & PERRINS' SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GENTLEMAN at Madras, to his brother at WORCESTER, May, 1861.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most wholesome sauce that is made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD MEATS,
GAME,
WELSH-
RABBIT,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

GOOD SOLICITORS

For SUBSCRIPTIONS Wanted. Apply,

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

LATEST ACHIEVEMENT IN

Celluloid
Collars,



Cuffs
and
Bosoms.

GEO. CLEMENT & CO.

The Celluloid Company confidently assert that they have attained the highest improvement in their Waterproof Collars, Cuffs, and Bosoms, which has ever been reached in this line of waterproof goods. We have examined their latest improvements, and tested them by every means at our command. We are convinced that they have never been excelled, and we are ready to give them our heartiest indorsement. They are pliable, most durable of any goods on the market, and resemble linen more perfectly than any waterproof imitation. Some strangers who have little acquaintance with these goods are under the impression that celluloid is an explosive material. This is an entirely erroneous idea. We can hold celluloid upon the hottest argand burner, and it will melt, but never ignite. The linen interlining makes it much stronger than any other goods in this line. We shall be glad to have any and all of our former patrons try these goods and write us their opinion of the same.

A full assortment of Celluloid Collar Buttons at 5 cents each by mail, post paid; and Cuff Buttons from 25 cts., to \$1.00 per pair by mail. These buttons are durable and never tarnish the Collars and Cuffs.

CELLULOID COLLARS and CUFFS cost no more than linen—look better and wear longer. They never wilt from perspiration, are always white, clean and fresh; require no laundrying—are manufactured in all the leading styles for both Ladies and Gents, Girls and Boys. When soiled, simply wipe them off with soap and water. They save their cost in a week's wear. Try them.



Be sure this trade mark appears on the all goods you purchase.
Address: GEO. CLEMENT & CO. 33 East 22d Street, New York City.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

UNEQUALLEDAsk your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.**DELICIOUS**

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.**

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price, Analyst.		Price including Regular American Price, Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 35
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

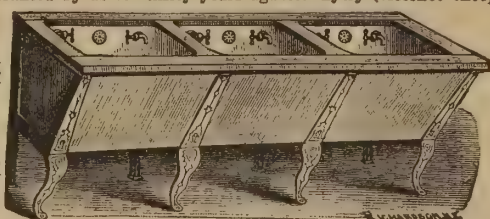
STEWART CERAMIC CO.,

312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.**VERY STRONG.**

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTONCan be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.****SWIFT AND COMPANY,****UNION STOCK YARDS,****CHICAGO, ILLS.****A BUSINESS BENEFIT.****ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.**

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pub-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose purious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS

A NEW USE FOR LIQUID PEPTONOIDS.

Successfully used in Dissolving the False Membrane in Diphtheria.

A Physician writes: "In an experience of over thirty years I have never used anything to equal your LIQUID PEPTONOIDS as a local application with a spray. It will dissolve the membrane and destroy the diphtheretic odor in less than twenty-four hours. I use the LIQUID PEPTONOIDS full strength, as a spray, two or three times a day, in bad cases."

Used successfully by another physician in two desperate cases:—"I was induced to try LIQUID PEPTONOIDS in two very desperate cases of DIPHTHERIA. I think I never saw throats more heavily coated with exudate than were these, and I think I never saw it more rapidly disappear than in these cases, by frequent spraying with your LIQUID PEPTONOIDS."

LIQUID PEPTONOIDS can be taken by patients unable to ingest food in any other form. In *dyspepsia* and *loss of appetite* its effects are positive, its digestive properties assisting in the digestion of food taken and its peptogenic properties quickly stimulating the natural digestive secretions of the stomach.

PANCROBILIN.

Prepared (in both Liquid and Pill form) from Extract of Pancreas and Bile.

This preparation is designed expressly to increase the digestion and absorption of fats.

We believe that the fat-digesting properties of pancreatine and bile are inseparable, and that without their union in the intestinal tract but little, if any, fat would be digested and absorbed.

PANCROBILIN will be found of great service in *Phthisis* and other wasting diseases, *Nervous Prostration*, *Constipation*, *Inanition*, *Malnutrition*, *Intestinal Indigestion* and wherever there is a failure to assimilate fats.

If the skin is first wet with LIQUID PANCROBILIN, the inunction of oils will be greatly facilitated.

LIQUID PANCROBILIN is put up in pound bottles. PILL PANCROBILIN is put up in bottles holding 100 pills. The coating of the pills will resist acid digestion, when given as directed, but will be quickly dissolved in the alkaline secretions of the duodenum.

PHOSPHO-CAFFEIN COMP.

(Granular Effervescent.)

Formula for each dessertspoonful:—

Caffein.
Acidi Phosphorici aa, grains, ss.
Antipyrin.
Ext. Apii. Grav. dulc. (Celery), aa grains, j.
Sodium Bromide, grains, v.

The satisfactory results produced by PHOSPHO-CAFFEIN COMP. in *Headaches*, *Neuralgia*, *Insomnia*, *Neurasthenia* and general *Nervous Irritability*, are not due to the effect of any one ingredient, but to the happy effect of the combination. A thorough series of comparative tests have demonstrated the superiority of the above formula over any other in the market.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

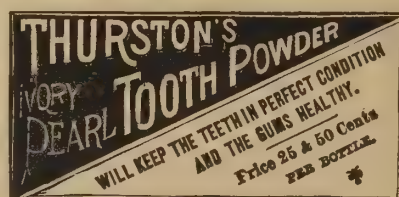
We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	WITH DIGEST AND ANALYST. PRICE.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE

VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Loading Numbers: 11,048,128, 130, 135, 333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

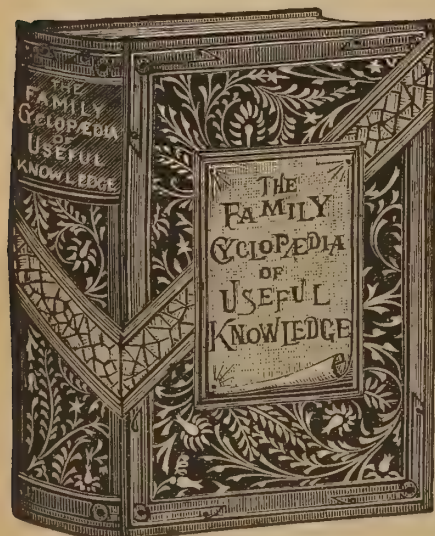


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO. Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPEDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-Carb. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA Bi-Carb. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,

NATRONA CHEMICAL WORKS.

PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

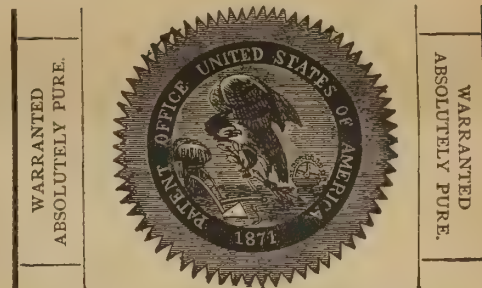
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88

North Moore Street, New York.

To Subscribers, Readers and Advertisers.

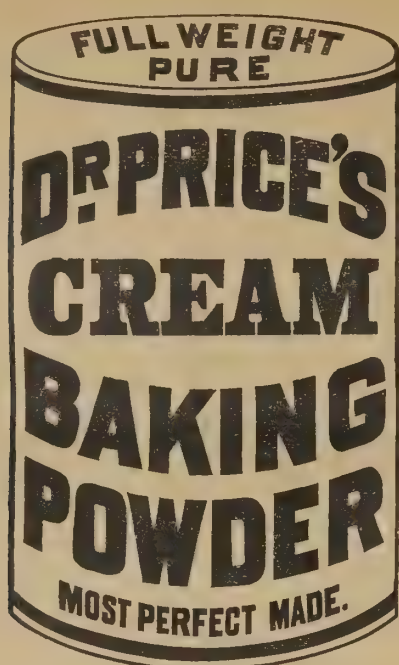
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fused Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS, FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

When the Baby Cries,

find out why. There is a reason. If improperly nourished, it is its only way of telling you so.

RIDGE'S FOOD

makes healthy, joyous children. Try it.

"BILLET"

are

Carefully Selected
French Gardines,
Lacked in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

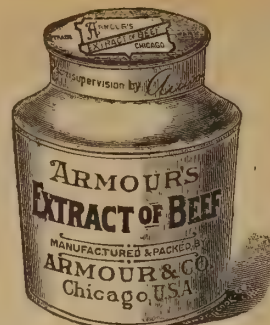
PURITY-STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 26.

NEW YORK, THURSDAY, JUNE 27, 1889.

WHOLE No. 122.

American Analyst, PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,
H. LASSING, M. D., } Editors.
T. P. McELRATH, }
No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Arsenical Poisoning.....	304
Baking Powders.....	302
Condensed Food.....	305
Domestic Dietetics.....	306
Editorials.....	301
Milk Again; Bugaboo Advertising; Gas Asphyxiation; Does the Sun contain Oxygen? Substitute for Glass; Butter Poisoning.	
Heart Failure.....	305
Labor's Advance.....	304
Micro-organisms.—Continued.....	303
Ocean Risks.....	305
Sun in Babies' Eyes.....	305
The Earth's Structure.....	304
Water Filtration.....	306

MILK AGAIN.

There is no article of human food of greater importance than milk. A great number of tender infants have to depend upon it for their sustenance, and besides it enters largely into the every-day food of all individuals. Housekeepers generally are willing to pay the highest price for what they really believe to be a pure, wholesome article. Upon this willingness many unscrupulous and dishonest dealers base a wily scheme for swindling the public, not only by robbing their pocket-books, but by endangering their health. In many parts of this city may be noticed small stores bearing the sign, "Farm Dairy," the name selected being generally suggestive of sweet-smelling clover and other adjuncts conventionally associated in the minds of city people with pure cow's milk. We also frequently see wagons on the streets bearing similar legends. All these pretend to sell to the verdant consumer fresh, pure cow's milk put in clean glass bottles "on the farm," and some even

go so far as to impudently claim to sell "one cow's milk" to those who think that a better system of milk supply. Milk from one certain cow, provided she is in perfect health and properly fed, may be very good, but it has been generally found that to take a mixture of the milk given by a herd of cows ensures greater uniformity of quality, and secures in the long run a better article. As to the bottled milk business, if it is honestly done, it is, no doubt, an improvement upon buying milk out of cans opened many times in dusty streets, with a germ-laden atmosphere of dust and other impurities blowing in and over it. If the bottles are properly cleansed, and good, pure milk is filled in them, it is well worth an advance on the ordinary price to obtain such an article, but that the public are generally supplied with such milk when bought from all who pretend to fill their bottles on the farm direct from the cooling house, or even at a depot from a clean can of pure milk, we very much doubt. Any observant man must have seen the drivers of such bottled milk wagons filling empty and unwashed bottles with milk from their cans. To put the best milk, even, and these dealers do not as a rule carry the best, into bottles still containing the decomposing remnants of the last filling is worse than to obtain the milk from the cans. As a matter of fact, with a very few honorable exceptions, these high-sounding names for dairy farms only apply to the wagons carrying the milk, and the alleged dairy farm is a stupendous myth. The public should investigate before allowing itself to be thus swindled. The honest dealers in bottled milk owe it to themselves to assist in the exposure of this imposition, and the AMERICAN ANALYST stands ready to publish the facts. The stronger the light that can be thrown on this subject the better will it be for the public, as well for the honest dealers.

BUGABOO ADVERTISING.

A very old but nevertheless reprehensible system of advertising has again made its appearance in the daily papers throughout the land, which, were it not that, like all such humbug announcements, it is aimed at the ignorant, would hardly be worth noticing. A fellow having a cheap, trashy combination of more or less harmful bitters and drugs calls it by some innocent name, such as celery compound for instance, and impudently advertises it as the only known remedy for what he calls "paresis," which the advertisement defines to be brain and nerve consumption. The inventor, who dubs himself Professor, boldly claims that "the great danger which threatens the American people is paresis." His remedy "is not a nervine or any devised article, but a discovery." "It brightens the mind, removes melancholy, quiets the nerves, restores memory, brings refreshing sleep, checks decay of the brain," and it is further claimed for it that "it has the unqualified endorsement of the highest scientific and medical authorities in the land." To add to the scare, the bright genius who prepares these advertisements closely watches the newspapers and every case of suicide, mania a potu,

heart disease or apoplexy, the victim of which is still well-known in the community is immediately seized upon, regardless of the feelings of the family, and made a text to attract attention to this nostrum. The best reason that can be assigned why such an advertisement is entirely unreliable, aside from the danger of taking a strange compound from a maker about whose skill and honesty nothing is known, and considering the fact that for such a deep-seated disease, as the advertiser admits this disease to be, very powerful remedies are necessary, such as cannot be prepared at wholesale to fit every case and cannot be taken without great danger, is simply this: that the definition of paresis given in this advertisement is positively and entirely false. Paresis, as defined by the best medical authorities, is a partial paralysis due to brain disease and is most usually in the form of hemorrhage into the brain substance or the occlusion of blood vessels and consequent arrest of blood supply to an area of the brain, or it may be due to an injury or to a tumor or morbid growth in the tissues of the brain. Enough has been suggested to warrant our readers in giving this nostrum a wide berth.

GAS ASPHYXIATION.

At a recent meeting of the American Gaslight Association of Toronto, the following rules were given, to be followed when men are overcome by gas: 1. Take the man at once into fresh air. Don't crowd around him. 2. Keep him on his back. Don't raise his head nor turn him on his side. 3. Loosen his clothing at his neck and waist. 4. Give a little brandy and water—not more than four tablespoonfuls of brandy in all. Give the ammonia mixture (one part aromatic ammonia to sixteen parts water) in small quantities, at short intervals—a teaspoonful every two or three minutes. 5. Slap the face and chest with the wet end of a towel. 6. Apply warmth and friction if the body and limbs are cold. 7. If the breathing is feeble or irregular, artificial respiration should be used, and kept up until there is no doubt that it can no longer be of use. 8. Administer oxygen.

DOES THE SUN CONTAIN OXYGEN?

A member of the Paris Academy of Sciences, M. Janssen, claims to have made a discovery which upsets the entire theory based on the analysis of celestial bodies by means of the spectroscope. On May 12 the electric lamps of the Eiffel Tower were turned on the Meudon Observatory, which is 7,800 meters (4 miles 7 furlongs) away. He reckons that the mass of air lying in a given section of that length at the height of the tower is equal to the atmospheric mass above. M. Janssen argues from this that the number of molecules of air encountered by a beam of light sent from the Eiffel Tower to the observatory is about the same as that met by sunlight on its way to the earth when the sun is near the zenith. He then shows that if the analogy

"Moreover, since it is quite possible to put up the baking powders in such a way as to preserve their strength very thoroughly, and since it is evident that many makers fail in this respect, it would not seem unreasonable to require that baking powders should not be sold unless they will yield a certain percentage of carbonic acid gas. The bad effects of the 'heavy food' prepared with some of the baking powders among our samples must certainly be felt by those who use them, and who are yet too ignorant to know where the trouble lies. It is for this class especially that nearly all legislation relating to securing good food and drugs is enacted.

"Since it is evident that some of the alum powders are so prepared as to increase the extent of any injurious effect, owing to the mixture of ingredients whose combination cannot be justified on any grounds, it is recommended that a special and more thorough examination of such be made, with a view to preventing their manufacture."

MICRO-ORGANISMS.

A POPULAR EXPOSITION OF AN INTERESTING SUBJECT.

(Continued from page 291.)

Sir William Roberts says: "Without saprophytes there could be no putrefaction; and without putrefaction the waste materials thrown off by the animal and vegetable kingdoms could not be consumed. Instead of being broken up, as they are now, and restored to the earth and air in a fit state to nourish new generations of plants, they would remain as an intolerable incubus on the organic world. Plants would languish for want of nutriment, and animals would be hampered by their own excreta, and by the dead bodies of their mates and predecessors—in short the circle of life would be wanting an essential link. A large proportion of our food is prepared by the agency of saprophytes. We are indebted to certain bacteria for our butter, cheese, and vinegar. Our daily bread is made with yeast, and to the yeast plant (discovered in 1836 by Cagniard de la Tour, and also independently by Schwann about the same time) we also owe our wine, beer and spirituous liquors. As the generator of alcohol, this tiny cell plays a larger part in the life of civilized man than any other tree or plant." Unfortunately for us, however, they have a powerful potency for evil also, and it is the noble aim of science to be able, by thorough study of the conditions under which that potency is acquired and exerted, to keep it under efficient control. Much still remains to be determined with regard to the disease-producing possibilities of the germs that in invisible clouds drift in the atmosphere. The more delicate and exact methods of the most recent observers—Koch, Pasteur, Tyndall, Ehrlich, Ogsten, Sternberg and others—with regard to their nature, seem to show that there are many varieties of them, each of which has its own conditions of growth, requiring or developing best in a particular soil. Different species multiplying in different media and varying in their susceptibility to different temperatures and to different chemical reagents. Apparent identity of form does not necessarily indicate identity of nature. They are not convertible into each other. Each species produces only itself, and is produced by itself alone, and when introduced into a substance that affords a favorable soil for its growth, always produces the same results. These results are not produced suddenly, but are of gradual development, progressing with the slow and steady multiplication of the organism. They may be cultivated artificially in either solid or liquid media. The best known and most commonly used solemn medium is nutrient gelatine, which unites the advantage of transparency with that of solidity; but it has the disadvantage of melting at a comparatively low temperature.

It has been a widely disputed question as to whether bacteria ever occur in the animal in a perfectly healthy

state; the affirmative view having been taken by Billroth and some others; but it is denied by Koch, by Pasteur and by Ehrlich, who state that they have never detected bacteria in the healthy animal. The failure of putrefactive bacteria, according to experiments, would go to show inability to struggle against the normal cells indigenous to the soil upon which they were planted. Some bacteria showed power of existence only in tissue in which vitality had entirely ceased, while others seemed to possess the power of existence in the presence of the animal cells when the latter suffered from impairment of nutrition, and the tide of life was turning against them. Abnormal composition of the blood seemed to favor the development of some bacteria, after they had found their way into the tissues. The theory of a causal relation between bacteria and diseased processes has recently received a wide acceptance. In some diseases this relation is established, while in others it is presumed on the ground that bacteria are found in the blood and diseased products. As additional evidence in favor of special bacteria for different diseases, the fact is advanced that bacteria found in different diseases have been discovered to have different morphological and chemical properties; to which may be added of still greater value, the different appearances presented by the colonies growing upon solid culture media. Admitting this causal relation of bacteria to disease, it must be demonstrated by successive cultures of the bacteria found to exist in the diseased person, and by the induction of the same disease in man or healthy animals by inoculation, with a reproduction of bacteria. The first discovery of the association of a germ with disease was by Pollender, in 1849, who found certain rodlets in the blood of animals suffering with splenic fever, also variously known as anthrax, charbon, miltzbrand, malignant pustule, and wool-sorters disease. The specific character of the parasite was afterwards pointed out by Davaine (1863), and subsequently carefully investigated and confirmed by Pasteur and Koch. The bacillus can be isolated and developed in proper cultivating media, and, when inoculated into some animals will produce splenic fever. Again, in 1873, Obermeyer, of Berlin, discovered a bacterium in the blood of patients suffering from relapsing fever, which has been named *Spirillum Obermeyeri*. It is found only during the febrile paroxysm, disappearing during the interval. So far, attempts at cultivation have proved unsuccessful. In March, 1882, Koch, of Berlin, announced the discovery of the *bacillus tuberculosis*, which he asserted to be the exciting cause of tuberculosis. His results have been confirmed by many observers, and the bacilli have been found in the tubercles and sputa of persons suffering from phthisis. As you all know, they reproduce themselves when cultivated under proper conditions, and cause tuberculosis when inoculated into animals. The discovery of the parasitic origin of glanders followed closely upon that of the bacillus of tuberculosis. This was also made in Koch's laboratory by Prof. Schultz and Dr. Loeffler; and the results were verified by pure cultures and inoculations. Bacteria have also been found in malaria and in whooping-cough. A micrococcus has also been found associated with croupous pneumonia, by Friedlander. This may occur singly, but is generally found as diplococcus. Von Recklinghausen first described the bacteria of typhoid fever; and Klebs, in 1881, described a large bacillus, which he calls *B. Typhosus*, in which spores are formed in the centre, and often at the end. This is carried by the blood and lymphatics, and is found in all the organs. It is more generally believed, however, that the *causa morbi* is a peculiar short bacillus discovered by Eberth. This is rounded at both ends, and has spores. It is found in the ulcers, mesenteric glands and spleen; and has been cultivated by Gaffky. The inoculation of animals has not been successful; but it must be remembered that they do not have the disease spontaneously. The *Micrococcus Vaccinae* is very small, only half the thousandth of a millimetre in diameter, and is found

isolated or in pairs, and when cultivated forms chaplets. Cohn regards *M. Vaccinae* and *M. Variolae* as different races of the same species, but Magnin thinks them identical. In vaccinia they are found in the lymph of the vesicle, and in its borders in the rete malpighi, and were subsequently traced into the subjacent cutis, especially in the lymphatic spaces. The multiplication and extension coincides with the development of the pustule. In variola, Chauveau (1868) first proved a particular nondiffusible active principle; and Cohn (1872) first proved that the lymph contains numerous micrococci. I have myself cultivated the *M. Vaccinae* into the third generation in liquid media, the first inoculation being made directly from the lymph of the vesicles on a calf at Dr. Martin's stables in Roxbury; but limited experiments failed to produce characteristic vesicles on babies vaccinated from these cultures.

The comma bacillus of cholera (Koch, 1883) has of late attracted much attention. They are found chiefly in the excreta of cholera patients; are slightly curved like a comma or half of the letter U, and occur single or in pairs like the letter S; when their growth is retarded they form a spiral chain of several members. They are easily cultivated on nutrient gelatine, forming a growth easily distinguished from others, even from those which are morphologically similar, viz., the so-called cholera nostras, comma bacillus of Finkler and Prior, the mouth comma of Miller and the 'cheese comma' of Deneke. After much experimentation Koch has succeeded in inoculating animals. The bacilli require an alkaline medium for their growth; so he injects, with a catheter carbonate of soda into the stomach of guinea pigs, to neutralize the acid of the gastric juice. Then he injects a considerable quantity of a solution containing the comma bacilli. Even this is not sufficient; for they pass through the intestines so quickly that they do not proliferate, and therefore he injects into the peritoneal cavity tincture of opium sufficient to paralyze the intestines and stupify the animal for some time. About half of the animals so treated die in from twelve to twenty-four hours, and a nearly pure culture of comma bacilli is found in the intestines.

In scarlet fever Coze and Feltz have found micrococci in the blood, and inoculation of rabbits sometimes produced death; but it is not certain that it was due to scarlatina. Polas Pineas found very minute micrococci on the scales of desquamating epithelium; and in the throat discharge.

In acute infectious osteomyelitis a peculiar micrococcus is found, which is easily cultivated, and, when rabbits are inoculated, and their bones broken, abscesses form containing micrococci.

In measles, Coze and Feltz found bacteria in the blood which were minute and mobile. The rabbits were not killed. Braidwood and Vacher caused children with measles to breathe through glass tubes coated with glycerine, and found sparkling bodies, something like those in vaccinia, but larger.

(To be continued.)

COCAINE IN VARIOLA.—Dr. Cerni calls attention, in *La Normandie Medicale*, to recent observations regarding the treatment of variola by the employment of cocaine in doses of from two to five centigrams. The period of suppuration is said to be shortened to a remarkable extent, and the general results produced are most satisfactory.

EIGHT HOURS UNDER WATER.—During some interesting experiments at Cherbourg, France, recently, two sailors belonging to the French navy were under water at a depth of 10 metres from 9 in the morning till 5 in the evening, on board the submarine torpedo boat Goubet. The commission of examination were enabled by telephone, minute by minute, to receive the impressions of the two men, who were quite fresh when they came up. Not a drop of water had entered the boat, and there was not the faintest odor perceptible. There seems every likelihood that submarine navigation, either by electricity or by means of cars worked from the interior which can be placed on the boat's sides, will soon be generally adopted for torpedo use.

LABOR'S ADVANCE.

WAGES OF LABORERS IN THE UNITED STATES IN 1800.

The condition of the American wages class nearly a century ago is full of instruction. In the large cities unskilled workmen were hired by the day, bought their own food, and found their own lodgings. But in the country, on the farms, or wherever a hand was employed on some public work, they were fed and lodged by the employer, and given a few dollars a month. On the Pennsylvania canals the diggers ate the coarsest diet, were housed in the rudest sheds, and paid \$6 a month from May to November, and \$5 a month from November to May. Hod carriers and mortar mixers, diggers and choppers, who from 1793 to 1800 labored on the public buildings and cut the streets and avenues of Washington, received \$70 a year, or, if they wished, \$60 for all the work they could perform from March 1 to December 20. The hours of work were invariably from sunrise to sunset. Wages at Albany and New York were 3s., or, as money then went, 40 cents a day; at Lancaster, \$8 to \$10 a month; elsewhere in Pennsylvania workmen were content with \$6 in summer and \$5 in winter. At Baltimore men were hired at 18l. a day. None by the month asked more than \$6. At Fredericksburg the price for labor was from \$5 to \$7. In Virginia white men employed by the year were given £16 currency; slaves, when hired, were clothed, and their masters paid £1 a month. A pound, Virginia money, was, in Federal money, \$3.33. The average rate of wages all over the country was \$65 a year, with food and perhaps lodging. Out of this small sum the workman had, with his wife's help, to maintain his family.

THE EARTH'S STRUCTURE.

A BRIEF EXPOSITION OF THE FUNDAMENTAL PRINCIPLES OF GEOLOGY.

[S. BRAZIER, in *Popular Science News*.]

When, emerging from his pre-savage state, man had acquired the use of his reflective faculties, his observation would be attracted, not only by the powers and phenomena which nature exhibits by day, but, when the glare of day was succeeded by the solemn gloom of night, the glittering constellations of the starry heavens invited his upward gaze, exciting his wondering admiration and trembling awe. Age after age passes silently away, during which the untutored vision of the savage is turned irresistibly to the shining orbs of the midnight sky. Millenniums roll by, and watchers on the plains of Babylon, Chaldean shepherds, Indian and Egyptian priests, keep up their endless vigils. Then, in later ages, when science dawned on Europe, Ptolemy and Tycho Brahe, Copernicus and Galileo, Kepler and Newton, directed the highest powers of the human intellect to the solution of those problems which the shining heavens present. It could not be otherwise. From the dawn of the human intellect, through all ages, the magnificence of the star-lit sky must attract the ignorant wonder or intelligent inquiries of man. But it required the slow and painful march of long ages of barbarism and civilization, and the development of art and science, such as was attained in the eighteenth century, before the human mind turned with intelligent interest to an investigation of the earth beneath, and endeavored to read the record which nature has written in the rocks. Geology was necessarily preceded by an advanced state of the other sciences—chemistry, zoology, botany, mechanics, and physical geography being required for the pursuit of its investigations and the solution of the problems presented by the crust of the earth. Geology, therefore, as a science, is entirely modern, belonging to the nineteenth century, and, both with respect to the magnitude and sublimity of its discoveries and its influence on modern thought, it probably marks one of the most interesting and important

stages in the progress of the human intellect. Sir John Herschel declared that "geology, in the magnitude and sublimity of the objects of which it treats, undoubtedly ranks in the scale of the sciences next to astronomy." In the study of astronomy, the mind is overwhelmed by the contemplation of limitless space—of "distances that seem ghostly from infinitude." Scarcely less impressive is the thought of the countless ages which geology requires for the changes which have taken place in the relatively small portion of the earth's crust to which man has been able to penetrate. Geology shows that the configuration of the earth's surface has been remodeled again and again. Valleys, which have been slowly formed, have been filled up again, and then re-excavated; mountain chains have been elevated, and again depressed; sea and land have changed places; wide continents, with their mountain ranges and resplendent rivers, sinking slowly, to become for long ages, the bed of the ocean, and again emerging to become dry land. Old rocks, which required many ages for their formation, have been gradually worn down, and their materials carried away by rivers, to form new rocks at the bottom of the sea. The oldest rocks known to us have been made with the remains of earlier formations. Similar rocks are being made now; and it has been truly said, there seems no indication of a beginning and no signs of an end. During all these innumerable ages, through all these revolutions, the evidences of which remain in those portions of the earth's crust which are accessible to man, vegetable and animal life have existed on the globe. The physical changes brought about by an alteration of the relative positions of sea and land; by gradual change of climate, from arctic to torrid, or from torrid to arctic—all the physical changes which for unknown ages have been taking place on the surface of the earth—have been accompanied by corresponding changes in vegetable and animal organisms. Organic forms have slowly changed, in obedience to external changes; the old forms have disappeared, and new ones slowly taken their places. A succession of new plants and animals has constantly been going on. Many species and genera are only found in the earlier formations, and others do not appear till many ages later, while some few genera have existed through all the changes known to geologists, and are represented by species living in the present seas. This difference is to be observed between the phenomena of astronomy and those of geology: however vast may be the cycles of time required for the revolutions of the heavenly bodies, the same series of events is ultimately brought about; whereas, there is no evidence of exactly the same changes in geological phenomena—the new formations are never exactly like the old; the successive races of plants and animals always exhibit fresh forms and fresh types; the pre-existing forms are never revived. And so the old world is ever new. We know the earth to be a spheroid, about 8,000 miles in diameter, and flattened at the poles. It has acquired this figure under the joint influences of gravitation and the centrifugal force resulting from the rotation on its axis. From a nebulous condition, by process of cooling and condensation, it has gradually assumed its present form, its interior part being probably still in a state of fusion, while the outer surface only has become cooled and solidified. The mean density of the earth is about five times that of water, while the rocks on the earth's surface are only about two and a half times as dense as water. It is not to be inferred from this, however, that the earth is solid to its centre. Owing to the force of gravitation, all matter tends towards the centre of the earth, and so great is the consequent pressure, that steel at the earth's centre would be compressed to one-fourth its bulk. It has been calculated that water at a depth of 362 miles would be as heavy as mercury, and atmospheric air at a depth of 32 miles as heavy as water. It is evident, therefore, that the mean density of the globe does not warrant the conclusion that it is solid throughout its mass. It is probably the expansive force of heat within the earth that renders its mean

density only twice as great as that of the solid matter at its surface. Geology inquires into the origin and development of the earth's structure, the materials of which the various strata of its crust are composed, and the method of their formation. It seeks to ascertain the mutations of land and sea, the changes of climate which have occurred in ancient times, and the effects of physical changes on the numerous tribes of plants and animals which, in endless succession, during interminable ages, have inhabited and adorned the globe. The generic term rocks is applied to all the formations that compose the crust of the earth, whether hard and crystalline—like granite or limestone—or non-crystalline—like shale, or chalk, or sandstone; and also to incoherent masses—such as clay, sand, gravel and peat. Rocks are termed igneous, when formed by the action of fire; sedimentary or aqueous, when formed under water; and eolian or aerian, and sometimes alluvial, when formed on the land. This last class is represented by soil, by the sand-hills of deserts, and the natural accumulations of debris at the base of cliffs and mountains.

This short article may be concluded by giving a chronological table of the various formations, in the order of their superposition, and divided into four great classes, placing the newest at the top, and the most ancient strata, or series of strata, at the bottom.

POST-TERTIARY OR QUATERNARY:

Historical or Recent.
Pleistocene.

TERTIARY OR CAINOZOIC:

Pliocene.
Miocene.
Eocene.

SECONDARY OR MESOZOIC:

Cretaceous.
Jurassic.
Triassic.

PRIMARY OR PALÆOZOIC:

Permian.
Carboniferous.
Devonian, or Old Red Sandstone.
Silurian.
Cambrian.
Laurentian or Pre-Cambrian.

ARSENICAL POISONING.

RISKS OF INFECTION FROM CONTACT WITH COMMON ARTICLES.

Physicians should never lose sight of the fact that in obscure cases simulating arsenical poisoning, there may really be such poisoning, gotten from wall paper, printed goods, labels and the like. An article in the *Medical Press and Circular* calls attention to the fact that not only is more than a safe amount of arsenic frequently found in wall papers, but that it is also found in dress stuffs such as cretonnes and muslins. A patient who made a number of curtains out of certain cretonne was afflicted a few days afterwards by boils, which broke out on her arms and face. One of the cretonnes examined by a chemist yielded 19½ grains of arsenious acid to the square yard. The writer appended this list of articles in which arsenic has from time to time been found: Paper, fancy and surface, colored: In sheets—for covering card-board boxes, labels of all kinds, advertisement cards, playing cards, wrappers and cases for sweetmeats, cosques, etc., the ornamentation of children's toys, covering children's and other books, lamp shades; paper hangings for walls and other purposes, artificial leaves and flowers, wax ornaments for Christmas trees and other purposes, printed or woven fabrics intended for use as garments; printed or woven fabrics intended for use as curtains or coverings for furniture, children's toys, particularly inflated India-rubber balls with dry color inside, painted India-rubber dolls, stands and rockers of rocking horses and the like, glass balls

(hollow), distemper color for decorative purposes, oil paint colors for decorative purposes, lithographic color printing, decorated tin plates, including painted labels used by butchers and others to advertise the price of provisions, japanned goods generally, Venetian and other blinds, American or leather cloth, printed table baizes, carpets, floor-cloth, linoleum, book-cloth, and fancy bindings.

CONDENSED FOOD.

A PROPOSED NEW INGREDIENT IN THE COMPOSITION OF FOOD.

A suggestion has been set forth by a correspondent of the *N. Y. Sun* that on account of its strength-giving qualities the African kola nut might be utilized in this country in the manufacture of condensed food, particularly for army use. It seems that four years ago Dr. Edouard Heckel, Professor of the Faculté de Sciences of Marseilles, and member correspondent of the Académie de Médecine, claimed to have discovered a condensed form of rations for military purposes, combining two special advantages of great importance. First, its bulk and weight being very much less than those of ordinary rations, it was far more easy for soldiers on a forced march to carry, and relieved the marching force of the impediment of a food supply train. The other advantage claimed was that it greatly increased both the muscular strength and wind of the soldier, so that he could march alertly, rapidly and steadily, and not become tired out or discouraged by fatigue. In January, 1885, Dr. Heckel obtained from the Minister of War authority to have soldiers make trial of the effects of his condensed, accelerative rations. The men were selected preferably from battalions doing service in the Alps, because mountain warfare is the most trying to human strength and endurance. These trials were continued last year. They have shown some very interesting results. The surgeons of the Seventh, Twenty-third and Twenty-fourth Alpine Battalions have reported favorably, giving precise details on the two-fold action of the Heckel rations. They report that it both sustains the body and increases its physical energy. The nine men experimented on of the Seventh Battalion marched rapidly through the mountains nineteen hours out of twenty-seven, and began to show signs of weariness only about the twelfth hour. None straggled, and the physical and moral condition of the men after so long a stretch was as satisfactory as possible. Col. de Cornulier-Luciniere, commanding the One Hundred and Sixth Regiment of Infantry, in company with a lieutenant, made two trials in their own persons of the effects of these rations. The first time they marched in the Pyrenees steadily for eight hours, the temperature being from 28 deg. to 30 deg. centigrade (about 65 deg. Fahr.). The second time they marched twelve hours, and ascended 6,500 feet, skipping during the last hour at the rate of six kilometres, or nearly four miles an hour. Mr. Sanson, professor at the Agricultural School of Grignon, has experimented on horses with the Heckel food. He ascertained that they like it, which is a very important point, that its alimentary power is equal to that of twice its weight of oats, and that it plainly exerts an exciting action on the nerves and muscles of the horses. Similar trials were made upon the draught horses of the Twenty-sixth Regiment of artillery, and on those belonging to the officers of the Fortieth Regiment of the line, and it was demonstrated that, for a few days at least, the Heckel biscuit could be made to take the place of the regular daily allowance of oats, and, besides, increase during that time the muscular energy of the animals. In view of the decisive part which artillery is destined to play in the battles of the future, the importance of Dr. Heckel's discovery is manifest. The essential ingredient of his biscuit was for some time a secret, but has now been discovered to be the nut of the kola tree, which is a native of the western part of Africa, where it grows to the height of fifty to sixty-five feet, and

bears its fruit at the end of its branches in rose-shaped bunches containing five or six nuts with rough shells. The inside meat resembles that of a French chestnut. The kola nut tastes somewhat bitter, but, strange to say, after eating of it, water, no matter how bad, becomes palatable, and is drinkable even when tainted. There are extensive forests of the kola tree in upper Senegal and in the Fouta-Jallon, both countries belonging to France. The tree is also to be found throughout the inter-tropical zone of West Africa, which includes the French Congo. Mr. Elisée Reclus, in several parts of his *Nouvelle Géographie Universelle*, mentions the kola nut. He states that the tree is held sacred by the natives, who, by using it, are enabled "to stand hunger and thirst for a long while, and be shielded against fevers." The French Alpine Club uses the kola nut, and recommends it to mountain climbers. No doubt it might often be made to serve a good purpose in our country.

HEART FAILURE.

A WORD OF GENTLE REMONSTRANCE TO THE MEDICAL FRATERNITY.

It would be an excellent idea if physicians of the present day would invent some other reason for about all the deaths which occur nowadays than the heart failure. It is difficult for any one conversant with the organs of the human body to understand how any human being can die without heart failure, while the causes of the failure of the heart at death may be very numerous. This might not be of serious moment were it not for the fact that hundreds of people are being nearly frightened to death by the constant use of the cause for sudden deaths, and many people who are sick and necessarily, have some heart symptoms, are kept in constant terror by reading or hearing in other ways of death after death by heart failure. It would be well if physicians who are too indolent or too ignorant to search out the disease lying back of the heart failure to consider how much harm they are doing the community, and if they cannot correct the habit, newspapers and the public should avoid giving currency to this unfounded and dangerous phrase. There are probably no more deaths from heart failure in these times than heretofore, but a new cause for death has been coined, and the nervous and timid are being severely injured by it.

SUN IN BABIES' EYES.

THE CAUSE OF SO MUCH POOR SIGHT AMONG CHILDREN.

As the sun slid down the western slope of the horizon last evening he blushed rosy red for the mischief he had been doing. His rays had brought premature near-sightedness or other ocular trouble to hundreds of babies in the public squares or along the streets. The nurse-girl and the baby coach circulated through every part of the city, and the sun was ever with them. The youngsters reclining on their pillows could do nothing else than gaze skyward. They squinted horribly; or scowled furiously, or wept copiously, but the wanton sun-god still persisted in aiming his shafts directly at their innocent upturned orbs, and, their guardians seemed all oblivious of their unhappiness. Some of them dropped their tired eyelids upon tired eyes, and thus avoided the impudent sun's glaring stare; but most of them stared back in the big flaming ball unremittently. In one of the public squares many coaches were uncanopied, while others were adorned with parasols of rare sky-blue silk or filmy lace that slanted over the protected cherub's optics in such a wobbly fashion as to give a constant alternation of dusk and glare that was bewildering. In a corner of the square a group of children of a little larger growth were romping. There were eleven of them all told, and their ages lay somewhere between 7 and 12. It was a melancholy

fact that the noses of five were bespectacled. Six or eight years ago those little romps were twisting and turning in their diminutive coaches in a vain endeavor to shirk the blinding rays of that same relentless sun. A gray-haired physician passed through the square during the afternoon and he heaved a sigh. "The world, they say, is growing blind," he murmured to a companion, "and its growth will be at a rapid rate if this sort of thing continues. Think you that the infant scions of aristocracy can stare uninterruptedly through many a summer's day at the blazing heavens without having their eyeballs scorched? Oh, for a thoughtful nurse and an old-fashioned common-sense baby carriage!" And with these words the M. D. passed on in meditation. — *Philadelphia Record*.

OCEAN RISKS.

IS NOT A LIMIT OF STEAMSHIP SPEED DESIRABLE?

Just when the five-day mark may be reached by the transatlantic racers cannot be foreseen, and in view of the startling progress made very recently in high speeds, it would be a wild guess to predict what record will be made in any given future period. But we imagine that the limit will be set rather by the passengers than by the steamship companies, naval designers or engine-builders. If the traveling public continue to demand excessive speed, and are willing to pay for the saving of a few hours' time, together with the attendant racing excitement—and inevitable risks—the companies will be forced to keep up the competition and to cater to that demand. The length of vessels, docking facilities, power of engines, and all details, will be forced to the greatest possible development, and the ships will be driven to their utmost. The legitimate gain in speed during late years has been due to increased size of vessels, twin screws and boilers capable of standing pressures not dreamed possible a generation ago. Relative, though not actual, fuel economy has been secured mainly by the introduction of triple and now quadruple expansion engines. What may be called illegitimate gains in speed have been reached by carrying initial pressures to an extreme and driving the ships more or less recklessly. The dangers of racing are not confined to a few unfortunate fishermen off the banks and to the other vessels which may haplessly be cut down at anchor, or under weigh in foggy weather; they affect the racing passengers as well. Possibly there may be a reaction against the desire for great speed, or at least against speed attained only by taking unnecessary risks. If so, the steamship lines will devote attention rather to increased economy, safety, regularity of passage, and comfort, than to speed; and if this assumption should turn out to be correct, it is quite possible that after the present crack racers and those now under contract have settled their rivalries, no further increase in speed may be looked for during a considerable period, or even that a retrogression of records might set in for a time, though we confess we have little expectation of seeing it. — *Engineering and Mining Journal*.

LONDON SMOKE—Prof. Chandler Roberts calculates that the weight of the smoke cloud which daily hangs over London, England, amounts to about fifty tons of solid carbon, and 250 tons of carbon in the form of hydro-carbon and carbonic oxide gases. From the actual results of tests made by the Smoke Abatement Committee, the value of coal wasted in smoke from domestic grates amounts, upon the annual consumption of five million of people, to \$11,282,500. The cost of cartage on this wasted coal is calculated to be \$1,343,750, while the unnecessary passage of about fifteen hundred thousand horses through the streets in drawing it adds seriously to the cost of street cleaning and repairing. Then there is the cost of taking away the extra ashes, \$215,000 per year. Summing it all up, the direct and indirect cost of waste coal may be set down at \$13,000,000, plus the additional loss from the damage done to property caused by the smoky atmosphere, estimated at \$10,000,000, the whole aggregating \$23,000,000.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

June.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb.

FRUITS.—Cherries, strawberries, bananas, pineapple.

PRACTICAL RECIPES.

TURNIP SOUP.—Use either beef or mutton. A beef soup-bone, or about two lbs. of scrag of mutton; put four or five quarts of water over the meat cut in small pieces, bring it slowly to a boil, skimming well; stew till the meat falls to pieces, strain and set the liquor away where it will keep cool; the next day remove the fat and add to the broth eight good sized turnips peeled and cut in slices, and a small half cupful of rice; stew till the turnips are soft, being very careful not to let the soup scorch.

FRIED ASPARAGUS.—Dip the asparagus first in boiling, then in cold water, drain, dip each piece in batter and fry it in hot fat, when quite brown sprinkle with salt and serve very hot.

BAKED POTATO CAKES.—Roll out cold mashed potatoes and make into little cakes, using a little flour to form them, but not mixing the flour with the potato; arrange in a pie plate, glaze with beaten egg and bake to a bright brown.

BONNY CLABBER.—Set aside some unskimmed milk for this purpose in the dish it will be served in; when thick put the dish on the ice for an hour or two so that the milk will be very cold. Serve with powdered sugar and sweet cream. This is a nice dish for breakfast on a warm morning, or for tea.

PINEAPPLE SHERBET.—Cut a fresh pineapple into dice and steep it for two hours in two quarts of water, strain and add the juice of four lemons and two teacupfuls of sugar put into the freezer; whip the whites of five eggs to a stiff froth, to them add three tablespoonfuls of sugar, and when the sherbet begins to thicken beat this into it; freeze until quite hard. This is very nice.

BEEFSTEAK AND OYSTERS.—Have some delicate little steaks cut from the sirloin; put them in a close stew pan with sufficient water to prevent burning and place them over the fire to brown; when browned add enough oyster liquor to cook them and some bits of butter rolled in flour; stew thoroughly for an hour or so till they are well done; then add two or three dozen oysters—according to the amount of beef—season with nutmeg, a few blades of mace and a little cayenne; cover the pan and simmer till the oysters come to a boil. Serve hot. Little neck clams may be used instead of oysters.

FRIED MUFFINS.—Sift together a pint of flour, half a teaspoonful of salt and two teaspoonfuls of Horsford's baking powder; beat up the yolks of two eggs with a scant half pint of milk and three ounces of sugar; put both mixtures together, add the beaten whites. Drop spoonfuls of the batter into very hot fat and fry quite brown; drain on thick paper, then dust sugar over them, and serve. If the syrup from a freshly-opened can of peaches is at hand, serve it with them.

BERRY PIE.—Select fresh picked berries, examine them carefully, and reject all unripe and bruised fruit.

Measure out the quantity required, dredge them with flour, and to each quart of blue or whortleberries add half a pint of sugar, no other seasoning being necessary. Make the pies with top and bottom crust.

WATER FILTRATION.

ACTION OF NATURAL SALTS IN PURIFYING WATER.

Probably at no time has the condition of the water supply of our cities and towns received more attention than at present, and perhaps no one thing has conduced to this state of affairs more than the discovery that certain salts contained in the earth act as renovators of all so-called "spring" waters, purging them, so to speak, of the foul matters held both in solution and in suspension. Up to the time of this discovery, it was thought that the earth acted merely as a filter or strainer on a large scale, and that each grain or atom of earth acted its part toward opposing or arresting impurities in the passing water; in other words, that only mechanical straining or filtering took place, and nothing more. Multitudes of filters have been made and put in operation in all ages and countries with the expectation of seeing the water emerge from them as pure and sparkling as from a good "spring," and the greatest surprise has been manifested at the failure to secure the same results when apparently every condition was supplied. The question remains, "Was every condition supplied?" Modern science answers, "No." The peculiar action of the above salts upon the portion of impurities said to be held in solution is well illustrated by the effects produced by dissolving soap in a water of great (so-called) hardness. The white flakes that almost instantly appear are composed not alone of dissolved soap (for soft water would not show such individualized flakes), but a mixture of soap and some substance hitherto held in undisturbed solution in the water, but now withdrawn from that condition and floating above in mechanical suspension. It will be plain that if this soap-treated water was now poured into the earth at one point, and made to emerge at another some distance off, it would be found purged of not alone the soap it contained, but also of the modicum of foreign matter held in its embrace, and which went to make up the quality of hardness spoken of. This subject is so little (generally) understood, that it seems necessary to use the above illustration for the benefit of the casual reader, although to the chemist a hundred different applications of the same law will suggest themselves. Indeed, it is noted here for the purpose of calling more emphatic attention to the simple fact that water may contain impurities in absolute (chemical) solution, and that such impurities, by the addition of another substance, may be rendered tangible, and capable of withdrawal from the water by purely mechanical means. Equally clear and understood should be the statement that water may contain impurities in a state of fine (mechanical) suspension—so fine that they would flow wherever water would flow—and these, by the addition of another substance to the water, be made to flock together into groups, a thousand or two into one (as clouds are condensed into drops); and that one, with its fellows, be tangible, and easily removed from the water by purely mechanical means. It follows, that if the earth contains in abundance this "substance," which has the dual property of disengaging matter held in solution, and rendering the same tangible, and also of curdling together matter held in so fine a state of division as to almost elude the sense into a state of perfect tangibility, we at once get at the secret of how nature makes the true spring water, so wonderfully pure and sweet to the taste, as well as brilliantly clear, and inviting to the eye. What is this substance or substances? Usually some combination of lime, iron, potassium, aluminum, etc., with other basis, such as sulphur or carbon—all existing naturally in the great mother matrix, the earth. The almost universal diffusion of the aluminiferous earth (red clay)

makes that substance take a more prominent place among the agents above alluded to. Water cannot flow far in any part of the world without encountering in its course the coagulating or curdling effect of this single element. Some of these clays are more heavily charged or freighted with aluminous compounds than others. Waters fouled by such are more quickly subsided. In this fact we have a clew to the explanation of why it is, that, of two different waters showing the same degree of turbidity from clayey impurities, such impurities will subside quickly in one, while in the other they may not subside in months. As proof that the quick subsidence is due to the presence of these salts, we have only to add a minute proportion of such (usually aluminum sulphate) to the other water to produce the same effect. Hence, when water issues from the earth in a very clear and perfect state, we may always be sure that it has encountered somewhere on its travels a body of earth or mineral containing a suitable coagulant, the action of which coagulant upon the water accounts for its wonderful purity aside from and entirely independent of the mere filtering effect of the earth. It has remained for the present decade to apply the above knowledge to the art of filtration of water, and for the first time produce results equal to nature. As this industry extends, it will become a common thing to see "spring" water issue from our city faucets, as is already the case in a few American cities, notably Atlanta, Long Branch and Newport. The study of this subject furnishes a striking example of Nature's exhibiting, in the humble way-side "spring," the results of her perfect handiwork for the observation and admiration of man throughout all ages and countries, only to deliver up her secret to the pale student of this century of science.—*Science*.

CALIFORNIA SEED.—The seed trade is looming up in California; in the County of Santa Clara alone not less than 1,200 acres are now devoted to the production of garden seeds. Over 60,000 pounds of lettuce seed and 120,000 pounds of onion seed have been shipped east from California in a single season. The seed is said to be of excellent quality, and there appears to be every probability that California will eventually be one of the great centres of the seed business of the country.

USES OF SOAPSTONE.—A writer in a London journal calls attention to the unappreciated uses and preservative qualities of soapstone—a material, he says, which possesses what may be regarded as extraordinary qualities in withstanding atmospheric influences, those especially which have so much to do with the corrosion of iron and steel, and from experiments made it is said that no other material is capable of taking hold of the fibre of iron and steel so readily and firmly as this. In China soapstone is largely used for preserving structures built of sandstone and other stones liable to crumble from the effect of the atmosphere; and the covering with powdered soapstone in the form of paint on some obelisks in that country, composed of stone liable to atmospheric deterioration, has been the means of preserving them intact for hundreds of years.

GEOLOGY OF PETROLEUM.—The interesting fact appears to be well-established that petroleum-producing strata do not always belong to the same geological period. Thus, in Kentucky and Tennessee the petroleum is furnished by the lower silurian stratum, that is, by the most ancient stratified rocks; in Upper Canada it is found in the lower Devonian, and in Pennsylvania in the upper Devonian. The springs of Western Virginia flow from the upper carboniferous strata; in Connecticut and North Carolina coal oil is found in the trias; in Colorado and Utah in the lignites of the cretaceous formation, while the oil-producing regions of California belong to the tertiary period. It is stated as a remarkable fact that most of the deposits of the ancient world exist in comparatively recent tertiary formations, as for instance those of the oil-impregnated sands of Alsace, of the south of France, and of Abruzzia and Emilia, in Italy. There are numerous deposits in Galicia and the Danubian provinces similarly placed, while the strata that contain those of the Crimea, the Caucasus, and the island of Taman are of nearly the same geological epoch. Another fact stated is that the oils coming from the greatest depth prove to be of the best quality, those produced from nearer the surface of the earth seeming to have lost some of their volatile elements.

BRICK PAVING.—A very smooth, solid and comparatively noiseless road-bed is now made in the following manner: Bricks, constructed from the refuse clay not suitable for regular fire-bricks, are laid endwise, with broken joints, in sand. They are then pressed down with a heavy roller, and boiling tar is poured over them, so as to make a compact mass, as well as to exclude the water. A layer of sand is thrown over the tar before cooling. This paving has been in satisfactory use for some time in various cities.

IS THE MOON INHABITED?—Whether or not the moon is inhabited has always been an engrossing speculation, but probably no more original mode of settling all doubts at rest on the subject has ever been attempted than that credited to the King of Wurtemberg. It is stated that this enterprising monarch has decided to have photographs of the moon made under the best possible conditions, and then to have the negatives enlarged 100,000 times. The result of this experiment, if it is carried out, will be watched with much curiosity and interest.

A WONDERFUL FURNACE.—A furnace has been constructed by a Philadelphia inventor, which he claims will secure the perfect combustion of coal, and thus avoid the great loss and waste of fuel which the best methods hitherto employed have involved. A fire is so arranged, in a common cylinder stove, that two different currents of air of different temperature pass through separate parts of the grate. A partial vacuum is created in the centre of the grate, and a cyclone in the drum of the stove, thus producing perfect combustion all over the surface of the coal. In fifteen seconds from the lighting of the stove the drum is red hot. A few more seconds and a rapid vibration occurs in the drum, and then the cyclone in the stove is raging in full force; the drum loses its heat, and it is discovered that the air is being drawn down the chimney. It is stated that, within four minutes from the time of lighting, cast iron, spiegel and manganese ore can be melted, and yet the temperature of the room can be kept at a moderate temperature. The inventor further claims that the combustion is so slow and so complete that a fifty-pound charge of coal will last twenty-four hours.

NOISELESS DOORS.—Doors are now made of two thick paper boards molded into panels and glazed together with glue and potash, and put through a heavy rolling process. Covered with a waterproof coating, they are hung like wooden doors, and are both beautiful and serviceable. They possess the additional recommendation of being comparatively noiseless.

CANCER TREATED BY ELECTRICITY.—Several cases of cancer have been successfully treated by Dr. Parsons, by passing a powerful interrupted voltaic current through the tumors. The growth as a whole does not entirely disappear, but remains as an inert mass, probably composed of fibrous tissue. This, the doctor thinks, could not be absorbed, but the remains of the growth could always be removed subsequently by the knife if desired.

Fine Table Wines

From our Celebrated Orleans Vineyard.

And Hardy & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

To Subscribers, Readers and Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

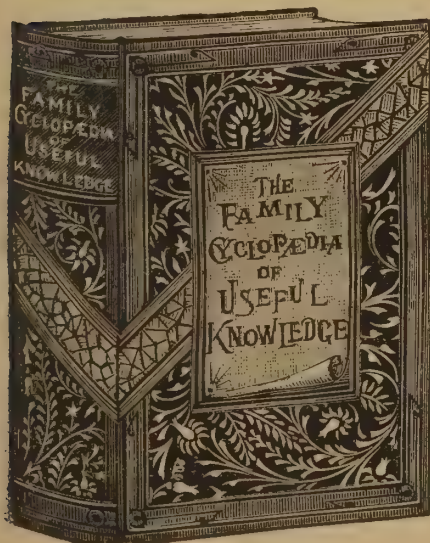
ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a New Subscription with **One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,
—19 PARK PLACE, NEW YORK.—

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose purious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

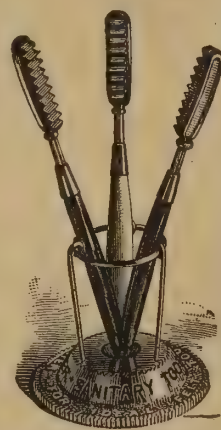
OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.



IF YOU ARE SICK and cannot raise your head, use the **IDEAL FELT Tooth Polisher**

to greatly add to your comfort.

If you are **WELL** and would enjoy life's fullest blessings, use it to increase your health and happiness. If you live in **Society** use it to improve your appearance. If you live in **Solitude** use it to preserve your teeth. If you are **Rich** it will make you richer. If you are **Poor** it will save you money.

WHATEVER YOUR AGE OR CONDITION. You CANNOT AFFORD TO BE WITHOUT IT.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET,

NEW YORK.



Mothers Know the danger in using a poorly washed Nursing bottle—it often causes death. A bottle washed with Pyle's Pearline and water will be perfectly clean—cannot be otherwise. Not necessary to use shot, etc., etc. Ordinary servants may be trusted to wash the baby's bottle if you see that they use Pearline. It has no equal for washing children's linen. For sale by Grocers everywhere. Manufactured by JAMES PYLE, New York.

LATEST ACHIEVEMENT IN

**Celluloid
Collars,**



**Cuffs
and
Bosoms.**

GEO. CLEMENT & CO.

The Celluloid Company confidently assert that they have attained the highest improvement in their Waterproof Collars, Cuffs, and Bosoms, which has ever been reached in this line of waterproof goods. We have examined their latest improvements, and tested them by every means at our command. We are convinced that they have never been excelled, and we are ready to give them our heartiest indorsement. They are pliable, most durable of any goods on the market, and resemble linen more perfectly than any waterproof imitation. Some strangers who have little acquaintance with these goods are under the impression that celluloid is an explosive material. This is an entirely erroneous idea. We can hold celluloid upon the hottest argand burner, and it will melt, but never ignite. The linen interlining makes it much stronger than any other goods in this line. We shall be glad to have any and all of our former patrons try these goods and write us their opinion of the same.

A full assortment of Celluloid Collar Buttons at 5 cents each by mail, post paid; and Cuff Buttons from 25 cts., to \$1.00 per pair by mail. These buttons are durable and never tarnish the Collars and Cuffs.

CELLULOID COLLARS and CUFFS cost no more than linen—look better and wear longer. They never wilt from perspiration, are always white, clean and fresh; require no laundrying—are manufactured in all the leading styles for both Ladies and Gents, Girls and Boys. When soiled, simply wipe them off with soap and water. They save their cost in a week's wear. Try them.

Keep this for reference. CELLULOID COLLARS and CUFFS are as economical and desirable as represented. Can always obtain the same FREE OF POSTAGE, at the following prices:

Gents' Collars,	25 cts.	6 for.....	\$1 30—\$2 25 Doz.
" Cuffs,	50 "	6 "	2 75—4 75 "
Ladies' Collars,	15 "	6 "	85—1 50 "
" Cuffs,	30 "	6 "	1 70—3 00 "
Small Bosoms,	50 "		
Large "	75 "		

Remit by postal order, check, or stamps.



Be sure this trade mark appears on the all goods you purchase.
Address: GEO. CLEMENT & CO., 33 East 22d Street, New York City.

A BOSTON PAPER SAYS:

"There is no hotel in New York so satisfactory as the famous Sturtevant House, Broadway, cor. 28th St. Its location is central, and Matthews & Pierson, its proprietors, serve guests on both European and American plans and their charges are very reasonable."



BLAIR'S PILLS
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,

*The Care and
Feeding of Infants*

will be MAILED FREE to any address.

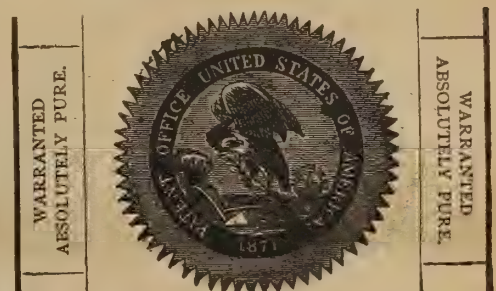
DOLIBER, GOODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only THREE possessed the power of acting on starch. These brands were **MALTINE**, Corby, Stacey & Co's Extract, and Keppeler's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Fermented.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis, by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

84 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER FG. Co., 52 and 54 Park Place, New York City.



LADIES

Enamel your Ranges twice a year, tops once a week and you have the finest-polished stove in the world. For sale by all Grocers and Stove Dealers.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK

WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS

GORDON & DILWORTH

563 & 565

TABLE DELICACIES

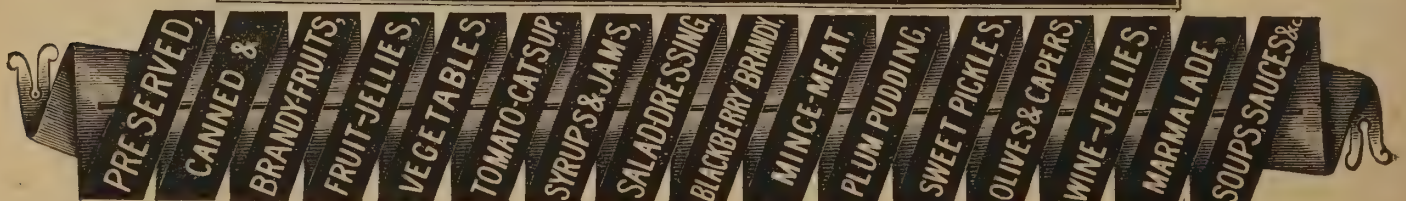
GREENWICH ST. NEW YORK

OLIVES, CAPERS, CATSUP, MINCE MEAT, PLUM PUDDING, SALAD, DRESSING

CHOICE & DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

KEITH'S CON. TINC. AVENA SATIVA

(FROM COMMON OATS.)

WITHOUT ADMIXTURE OF ANY KIND.

A Powerful Nerve Stimulant, Tonic, Etc.

WAS FIRST offered to the medical profession by B. KEITH & Co., in 1881, as a remedy to be employed in the treatment of

Paralysis, Epilepsy, St. Vitus' Dance, the Morphia or Opium Habit, Chloral and Tobacco Habits, Sleeplessness, Nervous Debility and Exhaustion, Neuralgia, Alcoholism, Painful and Deficient Menstruation, Headache, Hysteria, Impotency, Convulsions and Prostration from fainting, and in the Convalescent stage of all Acute Diseases.

DOSE.—From ten to thirty drops, or more, as often as may be indicated to meet the urgency of the case. Administer in hot water when quick action is desired.

AN OVERDOSE CAUSES PAIN AT BASE OF BRAIN.

—WE MAKE ONE QUALITY ONLY.—

Price,

2 oz., 45c.; 4 oz., 75c.; 8 oz., \$1.35; 16 oz., \$2.50

B. KEITH & CO.,

73 William Street, N. Y.

Pure LAGER BEER

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALLY FOR

HOTELS, CLUBS

AND

PRIVATE FAMILIES

BY

Beadleston & Woerz

291 W. 10th St. New York.

Orders by Postal Card

promptly attended to.

LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

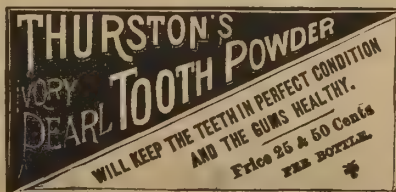
JAMES CHALMER'S SON'S Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura

ROBINSON'S SURE CURE FOR RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

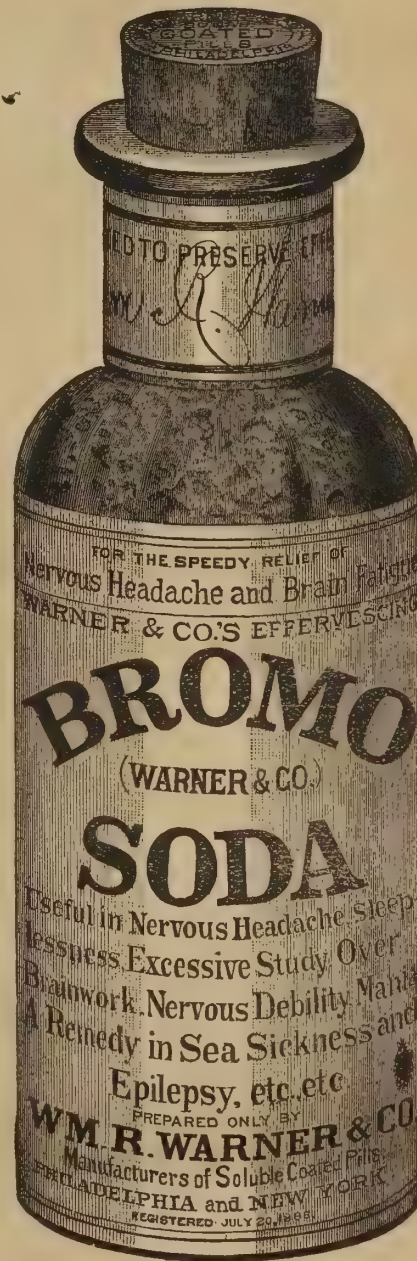

Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.



ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.
PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,

DELICIOUS

BOUILLON,

And strongly endorsed
 by the Medical

Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S

ORIGINAL LABEL:
 "Colden's Liebig's Liquid Extract of
 Beef and Tonic Invigorator."

LIQUID

BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
 ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist **ARTHUR HILL HASSALL, M.D., F.R.S.**, and an endorsement by **SIR ERASMUS WILSON, F.R.S.**, is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of **SOLUBLE CITRATE OF IRON**, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "**COLDEN'S**" viz: "**EXT. CARNIS. FL. COMP. (COLDEN).**" It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the **AMERICAN ANALYST.**

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 27.

NEW YORK, THURSDAY, JULY 4, 1889.

WHOLE No. 123.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Asparagus vs. Grass.....	316
Celluloid Products.....	315
Dietary Follies.....	315
Domestic Dietetics.....	316
Editorials.....	313
Cigarette Poisoning; Distribution of Education; American Scientists; Pure Water; American Sugar of Milk.	
Micro-organisms.—Concluded.....	314
Vizetelly vs. Mumm.....	315

CIGARETTE POISONING.

The warnings to which the AMERICAN ANALYST has given utterance against the pernicious habit of cigarette smoking seems to have received at least tacit acceptance from our colleagues of the press, the *Popular Science News*, of Boston, being the only journal of respectable authority that has taken up, as in its issue of June 1, the opposite side of the argument. Meanwhile there is a perceptible growth of hostility to the cigarette habit on the part of the general public, arising from the better knowledge which the press has diffused of its harmful effects, and the Legislatures of New York and Michigan have passed laws forbidding the sale of tobacco in any shape to boys under sixteen years of age. Medical men who did not themselves acquire the habit in their youth are almost unanimous in denouncing it. The most recent utterance on the subject from that source is that of Sir Morell Mackenzie, the distinguished English surgeon, who, in an article in the *Contemporary Review*, describing the effects of various stimulants on the voice, pays his respects to cigarettes in the following language: "I feel bound to warn speakers addicted

to the 'herb nicotian' against cigarettes. Like tippling, the effect of cigarette smoking is cumulative, and the slight but constant absorption of tobacco juice and smoke makes the practice far more noxious, in the long run, than any other form of smoking. Our forefathers, who used regularly to end their evenings under the table, seem to have suffered little of the well-known effects of alcohol on the nerves; while the modern tippler, who is never intoxicated, is a being whose whole nervous system may be said to be in a state of chronic inflammation. In like manner, cigarette smokers (those, at least, who inhale the smoke, and do not merely puff it 'from the lips outward,' as Carlyle would say) are often in a state of chronic narcotic poisoning. The old jest about the slowness of the poison may seem applicable here; but, though the process may be slow, there can be little doubt that it is sure. Even if it does not kill the body, it too often kills or greatly impairs the victim's working efficiency and usefulness in life. The local effects of cigarettes in the mouth must also be taken into account by those whose work lies in the direction of public speech. The white spots on the tongue and insides of the cheeks, known as 'smokers' patches,' are believed by some doctors with special experience to be more common in devotees of the cigarette than in other smokers. This unhealthy condition of the mouth may not only make speaking troublesome, or even painful, but it is now proved to be a predisposing cause of cancer. All fiery or pungent foods, condiments or drinks tend to cause congestion of the throat; and, if this condition becomes chronic, it may lead to impairment, if not complete loss, of voice."

DISTRIBUTION OF EDUCATION.

India, it would seem, is practically uneducated. The total number of scholars in schools and colleges of all sorts is only three and a quarter millions, or 1½ per cent. of the entire population. These are mainly confined to the cities and towns; and out of 250,000,000 in all India, less than 11,000,000 can read and write. A census of the illiterates in the various countries of the world, recently published in Germany, places the three Slavic States of Roumania, Servia and Russia at the head of the list, with about 80 per cent. of the population unable to read and write. Of the Latin-speaking races, Spain heads the list with 63 per cent., followed by Italy with 48 per cent., France and Belgium having about 15 per cent. The illiterates in Hungary number 43 per cent.; in Austria, 39; and in Ireland, 21. In England we find 13 per cent.; Holland, 10 per cent.; United States (white population), 8 per cent.; and Scotland, 7 per cent., unable to read and write. When we come to the purely Teutonic States, we find a marked reduction in the percentage of illiterates. The highest is in Switzerland, 2.5; in the whole German Empire it is 1 per cent.; in Sweden, Denmark, Bavaria, Baden and Wurtemberg there is practically no one who cannot read and write.

AMERICAN SCIENTISTS.

The thirty-eighth meeting of the American Association, for the Advancement of Science, will be held at Toronto, Ont., beginning on Tuesday, Aug. 27, 1889. On Aug. 28, the first general session of the meeting will begin at ten o'clock in the forenoon. After the adjournment of the general session, the several sections will organize. In the afternoon, the vice-presidents will give their addresses before their respective sections; and in the evening there will be a general session, when the retiring president, Major J. W. Powell, will deliver his address. The sessions will continue until the Tuesday evening following, and on Wednesday morning, Sept. 4, a meeting of the council will be held. Saturday, Aug. 31, will be given to excursions. The meeting will close with excursions extending to Sept. 7.

PURE WATER.

The Chicago *Sanitary News* quotes the views expressed by the AMERICAN ANALYST on the subject of filtering water for drinking use, and appends the following endorsement of our opinions: "It is not best to place too much confidence in a filter of any kind. It may lead to the use of impure water when the supposed security of the filter would remove all other precautions and in itself be ineffective. We do not remember any authority who claims that the filter will produce absolutely pure water, or that it should be relied on to remove bacteria. Clear, sparkling water is by no means pure water at all times. It may still contain disease germs, and its clearness as it comes from the filter may induce its use when laden with the germs of disease."

AMERICAN SUGAR OF MILK.

The milk industry of New York State sees a small measure of promised relief from the present depression of prices due to over supply, in the development of the sugar of milk manufacturing industry. Formerly, consumers of the article in this country depended entirely upon importations from Switzerland and Bavaria, and it is only lately, and in view of the increasing demand, that an attempt has been made to supply the market with a home-made product. Sugar of milk is a 5 per cent. constituent of crude milk, and is a peculiar white saccharine and crystalline substance, obtained by evaporation from the whey and afterward purified. The wholesale price is twenty-five to thirty cents a pound. It is coming into very extensive uses in the sugar coating of pills, as an element of food for invalids, and for other purposes. The first plant for its manufacture in this country was set up a year or two ago at Hamburg, N. J. Another factory has recently been started at Oxford, N. Y. A third factory is about to be opened at Unionville, in Orange County, for manufacturing the article by a newly invented process, which is claimed to cheapen the cost of production.



MICRO-ORGANISMS.

A POPULAR EXPOSITION OF AN INTERESTING SUBJECT.

(Concluded from page 303.)

The individuals of the streptococci of erysipelas are smaller than the micrococci of vaccinia. Lukinsky found them in zoogla masses in the lymphatics, on the border of the erysipelatous zone. Fehleisen also found and cultivated them. He inoculated the ears of nine rabbits, and produced the characteristic rash in from thirty-six to forty-eight hours; the animals did not die. He also produced typical erysipelas, in from fifteen to sixty hours, in men who were inoculated to produce beneficial results in tumors. I have also cultivated them in liquid media. Septicæmia and pyæmia have been carefully investigated by Koch; and these diseases have been found due to bacteria, which he has cultivated and inoculated. In diphtheria, micrococci are found in the membrane and in the surrounding lymphatics, blood, kidneys and muscles. They are about the size of *M. Vaccinæ*, slightly oval, single or in pairs, and in colonies. Eberth showed the particulate character by filtration. Klebs claims to have produced diphtheria from inoculation of pure cultures, and to have found micrococci in the tissues and blood. Nasiloff inoculated the cornea with enormous multiplication of micro-organisms in the lymphatics of the palate, bones and cartilages, and says that they are the primary step.

The question as to the origin of life has been much disputed, and the exponents of spontaneous generation and of the germ theory still continue the contest. Extremists in the doctrine of evolution cannot sustain the hypothesis that the whole system of animal life is but a growth of one or more original species, changing into or evolving others through methods of development. The long ages of the past show the universality of the law of life, that like produces like. Neither the agnostic nor the materialist can account for the origin of matter, much less can they account for the origin of mind. Naturalists tell us that while the animal and vegetable kingdoms are reducible to primoidal cells; that while there is a time when the embryos of species cannot be distinguished from each other by any essential features, yet the variety of structural forms, and the diversity of physiological functions which cells develop, are always according to the special type and construction of their parent cells, evidencing a unity of plan in their construction and development.

1. The germ theory asserts that no life has been evolved (except in the remotest periods of the earth's

history) other than from a living parent or a living germ.

2. The spontaneous generation theory asserts that now, as of old, life does also spring *de novo* from molecular rearrangements of the atoms of dead organic matter.

No authority, except that of experimental work, can weigh a feather in the balance; no *a priori* reasoning can give the victory to either creed. The one condition is, to take dead matter, isolate it from all contact with life, place it under favorable conditions for development, and watch the result. The first views founded on experiment and observation, apart from mere philosophical speculation, are those of Needham and Buffon, published in 1748. Needham's theory was that vitality is produced by a force setting particles in motion, which he calls *force vegetatrice*. Needham was opposed by Spallanzani in 1777, who repeated his experiments by methods so precise as to overthrow the convictions based on Needham's labors. Schultz made an important advance by boiling his infusions and using pure air, and was followed by Schwann, Schroeder and Von Dusch. In 1859, Pouchet, one of the most ardent supporters of spontaneous generation, published his work. He does not look on these organisms as originating from dead matter, though he believes that it is the contact of different bodies which gives rise to the development of proto-organisms. Yet their origin is not due to affinity alone; vital force must also come into play, which owes its power to certain unknown concomitant circumstances. The essentials for the production of the new forms are a putrescible body, water and air, while heat, light and electricity favor the process. His experiments were performed very loosely, and are subject to many errors. Appearing shortly after Pouchet's work and leading to diametrically opposite conclusions, were the researches of M. Pasteur, who begins by attempting to demonstrate the existence of spores in the atmosphere. The greatest blow was given to the views of the heterogenists when Pasteur demonstrated that albuminoid materials are not necessary for the development of bacteria and fungi, but that they can be replaced by crystalline salts, such as phosphates and the salts of ammonia. The experiments of Prof. Jeffreys Wyman have been largely quoted by the supporters of heterogenesis as proving their view, though Wyman himself expressed no such opinion, having approached the subject with a perfectly unbiased mind. To Prof. Wyman is ascribed great credit by Cheyne, whose results agree with his own. Dr. Bastian (1872) gives up the theory that organic molecules are derived from previously living molecules, and attempts to demonstrate that vital force and living matter may arise *de novo* under the action of the ordinary physical forces—heat, light and electricity. This change of front on the part of the heterogenists is clearly brought about by the overwhelming evidence produced against Pouchet's views, and more especially by Pasteur's success in cultivating organisms from dust in fluids containing no organic matter. The limitation of cases of spontaneous generation which has been gradually taking place is very instructive. Beginning with the higher animals it became more limited, frogs, flies, etc., being by degrees excluded, till now it is only in the case of the lowest forms of life that the doctrine is asserted, and even then only in certain cases.

Not long since the people of Boston were invited to listen to a series of lectures which continues the discussion of the much-disputed question of the origin of life. The lecturer, although announcing himself as a decided opponent of the germ theory, could not agree with the spontaneous-generationists, and offered views somewhat peculiar to himself. His objective point was the so-called "ambient organic matter," of which he could give no definition, but in a long series of illustrations of what he meant he showed it to be synonymous with the bioplasm of Dr. Lionel Beale. The term bioplasm, as Dr. Beale says, involves no theory as regards the nature or origin of the matter. It simply distinguishes it as living

—e. g., a living white blood corpuscle is a mass of bioplasm, or it might have been termed a bioplast; a very minute living particle is a bioplast, and we may speak of living matter as bioplasmic substance. It is bioplasm, or ambient organic matter, according to the new view, that is at the bottom of all the functions of life, it having, to a certain extent, a low degree of inherent vitality; and the results of the various experiments that have been performed are due to the ambient organic matter, which has never yet been separated, it was urged, from the germs. It was argued that the germ theorists can prove nothing till they can isolate an organism on a needle point and use it for inoculation, after thoroughly washing and drying. Floating dust of the air, he added, is not germs, but ambient organic matter. He also expressed a desire to introduce some ambient organic living matter into the infusions and see what it would do. Hearing it so strongly urged that we have been mistaken concerning the action and importance of the minute organisms which have made up what they lack in size by the interest they have awakened during the last quarter of a century, it occurred to me that such a theory would be of more value if accompanied by facts based upon actual experiments, but no such experiments were offered to prove the theory, which was allowed to stand by itself. In these days a theory is accepted for what it is worth, and when it relates to science it must be supported by facts. Not considering this theory capable of self-support, and not content to leave the subject in this way, I have still further investigated it. I am reminded of Prof. Tyndall's experiments with hermetically sealed tubes. One hundred and thirty tubes were used, and to multiply the chances of spontaneous generation they were filled with infusions of the most diverse materials (in all numbering twenty-four). Each tube contained an ounce of liquid and was boiled for three minutes in an oil-bath, and sealed by a spirit lamp during ebullition. Two months later this group of flasks was submitted to the inspection of the Royal Society and not one of them was found to contain life. That the infusions were not degraded by boiling was proved by similar exposed tubes which "resolved themselves with the usual speed into bacterial swarms." Special care had been taken that the temperature to which the flasks were exposed should include those previously alleged to be efficient. The conditions laid down by the heterogenist were accurately copied, but there was no corroboration of his results. Again sixty flasks were thus prepared containing strong infusions of beef, mutton, turnip, and cucumbers, carefully packed in sawdust and carried to the Alps, 7,000 feet above sea level. Fifty arrived safely, of which twenty-three were opened on a hay-loft, and the other twenty-seven 200 feet higher, on a ledge overlooking the Aletsch glacier. The fifty flasks, with necks open, were then placed over the kitchen stove at a temperature of 50 deg. to 90 deg. F. In three days twenty-one of the twenty-three opened in the hay-loft were invaded with organisms; but after three weeks' exposure not one of the twenty-seven opened in the free air had become contaminated. No germ from the kitchen air had ascended the narrow necks, the flasks being shaped so as to avoid this contingency. Sir Joseph Lister's experiments with milk prove a great deal against the view of spontaneous generation. In his attempts to obtain pure unboiled milk, he found that in none of his flasks did he obtain lactic fermentation, but that in all but two (out of some fifty or sixty flasks), organisms of some form or other occurred, these organisms being in many flasks of totally distinct kinds. The fact that no organisms appeared in two flasks, and the great variety developed, prove that they could not have been developed *de novo*; for all being made under the same conditions any change occurring in one due to something inherent in the milk, or due to some physical force acting on it, would have occurred equally in all.

We have then a great number of experiments made by distinguished observers, of which I have quoted

VIZETELLY vs. MUMM.

A VOICE FROM CALIFORNIA ON THE CHAMPAGNE QUESTION.

The AMERICAN ANALYST has already referred to the misstatements made by Mr. G. H. Mumm, in a published interview on the subject of champagnes. The following letter published in a recent issue of the *Oakland Tribune*, fully corroborates our statements and further answers Mr. Mumm:

The California vine growers were recently startled at the assertion made by G. H. Mumm, that our State could never make champagne, and giving as a reason that we had no soil capable of producing the effervescent quality of the champagne wines of France. Nevertheless, he considerably confesses, that "in a thousand years from now our wines will be fine." Would it not be well for Mr. Mumm to explain that since we have no proper soil now, where it is come from in one thousand years hence, when we are to produce the fine wines he prophesies us? Without such explanation, to say the least, the statement looks very much as if made for a purpose, and that purpose not in the interest of our State. This is a matter in which every part of California is interested, and none more so than the county of Alameda, from which large quantities of wine are now being drawn in the production of a well known and popular branch of natural champagne, made in this State. These wines are largely chosen from the rolling hills skirting the Livermore valley, and grown on soil light in character, abounding with carbonate of lime, silicious fragments, and oxides of iron. In fact, a soil chemically identical to that claimed by Mr. Mumm to be possessed by the Champagne district alone. And this character of soil, beginning on the western side of Mt. Diablo, encircling its base, extends southward over the entire width of Alameda County, and how much further we do not know. Neither this nor any other character of soil, however, has anything to do with the effervescent quality of sparkling wines, either here or in France. The effervescence comes solely from the fermentation of saccharine matter remaining undecomposed in the wine, or saccharine that has been added to it. If G. H. Mumm had spoken as an expert would have done, and had been candid, which he was not, he would have explained the cause of effervescence in champagne just as we have here stated it. Having neglected to do so, it gives us the right to suppose his statement was intentionally made to injure the present and future champagne interest of California, and advance that of the firm he represents. And, on consideration, we hardly think the senior member of a French champagne firm is just the person to give an impartial opinion of the quality possibilities of our champagne wines, even if he were an expert. The county of Alameda, as well as several other counties in our State, has too much at stake to permit such wholesale misrepresentation to remain uncontradicted, and for the purpose of vindication we call the attention of our readers to the opinion of Henry Vizetelly, on the merits of our California champagne. This gentleman is a world-renowned wine expert, and was chosen, and served, as wine juror for Great Britain, at the Vienna and Paris Expositions of 1873 and 1878, and it should be borne in mind, that while he is interested in giving only a true and candid opinion as an expert, that Mr. Mumm has a direct inimical interest to discourage the production of champagne in our State. In his book on champagne, after mentioning the disappointments met at the beginning of champagne making in California, Mr. Vizetelly, alluding to a well known California brand, says: "For ten years past the wine has been constantly improving in quality, owing to the increased use of foreign grapes, which yield a *vin brut* with a delicate bouquet and flavor, which is composed merely of sugar candy dissolved in fine old wine. A French connoisseur pronounces it to be the best of American sparkling wines, clear and fresh tasting, with the flavor of a middle class *Ay* growth, as well

as remarkably light and delicate, and possessed of considerable effervescence." With so disinterested an opinion in our favor, from one who has made wine his life study, and whose attainments Great Britain was proud to acknowledge, we think we need have no fear for the continued success of champagne making in California, notwithstanding the interested motives and unfair expressions of G. H. Mumm. Let the people of Livermore continue their good work of planting only Noble grape varieties, and their wines will build up a reputation that the Mums of the present generation will be compelled to respectfully bow their heads to; and, with soil like that of Alameda County, it will not take a thousand years to do it in either!

FERENZ DE MOKTSAL.

CELLULOID PRODUCTS.

SAFE TO HANDLE, BUT READY TO BURN.

Umbrella and cane handles, collars, cuffs, and scores of other articles of convenience, utility and even elegance, manufactured from celluloid, are in daily use by large numbers of the people. The question is asked, "May they be safely used?" Celluloid is made from gun cotton, the powerful and violent explosive compound. Gun cotton is made by saturating absorbent paper with a mixture of two parts of nitric acid and five parts of sulphuric acid. The cellulose of the paper, derived from the cellular tissue of the cotton in common use, is changed by the combination and becomes gun cotton. To make celluloid, the excess of acid is washed out by a free use of water, and by pressure carefully applied. After the removal of all uncombined acid, it is reduced to a homogeneous pulpy mass, strained until it becomes nearly dry, and is then mixed with about one-third of its weight of gum camphor. These materials are mixed as uniformly as possible by careful manipulation with wooden instruments, and then by grinding. The pulp which is turned out by grinding is spread out and reduced to slabs of various thicknesses and rolled between steam-heated rollers, and then becomes moderately elastic in strips of medium thickness. In this form it is worked up into the various articles which are offered for sale and use. Although gun cotton is easily manufactured, its manufacture for experiment or for general use is not recommended; and, although celluloid articles may be safely used with ordinary care, a bonfire of such articles for amusement is not recommended. No injuries from such use have been reported. A word to the wise, however, suffices.

DIETARY FOLLIES.

SOME RECOMMENDATIONS HOW TO BE WELL AND MISERABLE.

A writer in the *New York Tribune*, who has read the absurd and contradictory statements regarding medical matters which go the rounds of the press with the common preface "a prominent physician says," gives the following burlesque rules for health as a summary of the information he has obtained: Remember, everything depends on what you do not eat. Dr. Husks, of Philadelphia, has made the food question a life study, and you cannot do better than follow his advice. In the first place, you must not eat meat in any form. Meat is not a natural food of man. The man who eats meat is weak; the one who makes a diet of vegetables is strong. This is illustrated, Dr. Husks has ably pointed out, even in the animal kingdom, the stronger and more robust animals feed on vegetable matter, while the weaker and the less active are meat-eaters. To show the force of this it will only be necessary to call your attention to the weak and nerveless lion and the powerful and aggressive lamb; the debilitated tiger and hearty hen. You will, unfortunately, have to drink something. Dr. Husks cannot for an instant

only a few, which show that life does not commence in substances unless something living exists in or has access to them. No one will deny the existence of the bioplasmic or ambient organic matter, but I must believe that it plays a far different role than was ascribed to it by the lecturer, and I also believe that the *germs* exist and play their part. If we examine fresh blood serum, the aqueous humor of the eye, white of egg, or milk, we will find, with high powers of the microscope (1000 x), in greater or less quantity masses of varying size and shape, made up of minute, shining, highly-refractive particles, with or without Brownian motion, which have a low degree of inherent vitality, and which are bioplasmic or ambient organic matter. No one with any experience is likely to mistake these for the minute, highly refractive bodies of uniform size, single or in groups, which we recognize as micrococci or bacteria. These substances, then, containing the ambient organic matter in sufficient quantity, and being free from germs, were selected for testing in the experiments which I made to see if the extraordinary statements of the lecturer had a basis of fact. Fresh blood was caught in flasks at the abattoir, as it flowed from the necks of the animals, and was sealed up until the clot had separated. Bulbs similar to those mentioned above, sterilized by heat, were then filled with the serum, and to the culture bulbs containing sterilized nutrient fluid, serum was added in varying quantity, and the bulbs were hermetically sealed. Milk was carefully drawn from the cow into a flask sterilized by heat, from which culture bulbs were inoculated. Bulbs were filled and culture bulbs inoculated from the white of an egg still warm from the nest, and also the aqueous humor of the eyes of freshly-killed sheep. The substances introduced into the bulbs were never boiled, because it was argued that the boiling of the infusions is unfair, by rendering them sterilized, barren and almost inorganic. These bulbs were kept at a temperature of about 70 deg. F., and examined with the microscope after varying intervals. Of the forty-five bulbs, forty-four remained perfectly clear and pellucid, and the microscope revealed the same bioplasmic masses as the fresh materials. In only one were there any signs of life, and this a bulb that had been inoculated with serum, was found to be undergoing fermentation, and was swarming with the germs of putrefaction, bacteria *termo*, proving it to have been accidentally contaminated. In the control experiments these materials, *exposed to the air*, under the same conditions, give a far different history, as they rapidly underwent fermentation, and then contained, in addition to the same bioplasmic masses, the germs of putrefaction. Such, then, is the effect of bioplasmic or ambient organic matter, *plus* the germs, at a temperature of 70 deg. F. Alone, however, although upon the germinal qualities of it so much has been suggested, not only does it fail to generate life, but it has no power of reproduction, and is at best an organic nutrient material, serving the highest purpose for bioplasmic use, but having in itself absolutely no independent power of growth.

COLOR-BLINDNESS.—An ingenious device for testing color-blindness has recently appeared. It consists in a combination of two adjustably attached cards or surfaces, one made up of different color sections, and the other containing an opening or aperture upon a white surface, the card containing the color sections being arranged so that the several sections can be brought to pass beneath the opening of the card. The subject of color-blindness has been receiving much attention, and many of the government employes are now obliged to submit to a color examination before they can secure an appointment. It is found that forty men out of every 1,000 are color-blind. A color-blind would be useless were the selection of colors to enter into his life work. It appears strange that color-blinds make the best etchers, steel engravers, or wood engravers, but such is the case; by the law of compensation they possess what is known to their profession as the "recognition of tone." But two women in 1,000 are color-blind. The savage races possess the perception of color to a greater degree than the civilized races.

consider anything but water. Tea and coffee are dangerous. We can learn much as to what to eat and drink from a study of the lower animals, whose tastes and instincts have not been corrupted as have man's. The cow does not drink tea, nor, for that matter, coffee either. If a man was not enfeebled by generations of coffee and tea-drinking he might be as large and strong as the cow. Nothing but water should be drank for breakfast, or indeed, for other meals. It should be as nearly as possible of a temperature of 98 deg. so as to avoid cracking the enamel off the teeth or injuring the lining of the stomach. As many of the disease germs as possible should be removed from the water before using, by boiling, and, if possible, distilling. Even then you will swallow a large number of germs every time you drink. You should, of course, have a filter. The cow does not use a filter, but cows are not men. Rise from the table promptly at 7:30, with a slight feeling of hunger. You will thus know that you have not eaten too much. No matter if the third dish of bran does look tempting, do not weakly yield. For an hour after breakfast indulge in light and humorous conversation. After the hour of light and vivacious conversation you may walk about for thirty minutes, taking care to keep the shoulders well back and to breathe twenty to thirty times a minute. After this begin the business of the day—attempting to exclude sewer gas from your nose. A light luncheon of wheat and oats may be taken at 1 o'clock, and dinner of wheat, oats and Indian corn served at 6 o'clock. Go slow on these things. Be in bed by 8 o'clock, and immediately fall asleep. Do not dream; Drs. Lasthope and De Spare's experiments show that dreams are injurious to the general health. Breathe as little as possible on account of the sewer gas.

ASPARAGUS vs. GRASS.

HOW WORDS BECOME CORRUPTED BY THE SUGGESTION OF SOUND.

The word asparagus is taken bodily from the Latin, which derived it from two Greek words whose meaning was equivalent to "juicy." In the *Youth's Companion* we find the following discussion of a popular distortion of the word:

In Webster's Dictionary, under the word "asparagus," this note occurs:

"This word was formerly pronounced *sparrow-grass*; but this pronunciation is now confined exclusively to uneducated people."

Walker's English Dictionary quotes authority to show that not only was asparagus commonly called "sparrow-grass" in England, even by educated persons, at the beginning of this century, but "cucumber" was pronounced "cowcumber." These two pronunciations passed out of use both in England and America, until now few people use them. The marketmen in the great cities and their environs, however, still cling quite tenaciously to "sparrow-grass," which they shorten up to "grass" as a matter of convenience.

"Is that nice asparagus?" a customer asks.

"Yes, that's very good *grass*," answers the marketman, with an emphasis on the "grass," as if to notify his customer that he knows what the vegetable is properly called, and in his next bill the marketman puts down this charge:

4 bunches grass @ 15c. 60

For the pronunciation "cowcumber" there is some excuse, as the word comes to us through the French, in which language it was formerly *coucombres*, and is now *concombre*. The German word *kukummer* was dropped in English for the French one, the English deriving nearly all their words for salads and the nicer table dishes from the French.

But for the word "sparrow-grass," as applied to asparagus, there is absolutely no excuse. It is a sheer corruption of the word asparagus. The sparrows are

not particularly fond of the seeds of the ripened asparagus, nor is it a grass in any sense. The asparagus, indeed belongs to the lily family, like certain other edible vegetables. It is certainly no new discovery, for the word is Greek, and means, according to some etymologists, "to swell with sap or juice;" and asparagus was eaten and much esteemed by the Romans.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

July.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, egg-plant, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb, corn, beets.

FRUITS.—Cherries, strawberries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple.

PRACTICAL RECIPES.

FORCE MEAT BALLS.—One cup cooked veal and one quarter of a cup suet minced together, add one cupful of bread crumbs, salt, sweet herbs, powdered cloves and pepper to taste. Add a beaten egg, make into little balls and fry in boiling lard to a good brown.

COLD ROAST BEEF STEW.—Cut about three-quarters of a pound of cold roast beef into slices or small pieces; put into a frying pan and pour over it a cup of cold water, a tablespoon of Chili sauce, salt and pepper; heat slowly to boiling. Put a little butter into two tablespoons of flour; add to the stew and let it cook for a few minutes till the flour is done. Serve on slices of toast. If onions are liked a few slices may be fried in the pan and then the meat added to them.

GRAVIES WITHOUT MEAT.—1. Slice three onions and fry them brown in butter. Add to them half a pint of water, some pepper-corns, salt, a slice of lemon, three cloves, a little mace, a spoonful of walnut pickle, one of mushroom ketchup, a dessertspoonful each of soy and essence of anchovy, a small bunch of sweet herbs, and a slice of bread toasted brown on both sides. Simmer all together, and strain for use.

2. Knead some flour into a piece of butter the size of an egg, and fry it over a clear fire. Stir it constantly until a nice brown, taking care that it becomes perfectly smooth. Then pour into the frying pan some boiling water, add some finely-minced onion, some pepper and salt. Let it simmer and then strain it. Mix with it a little mushroom ketchup.

GRAHAM GRIDDLE CAKES.—Mix together dry, two cups Graham flour, one cup wheat flour, two heaping teaspoonfuls Horsford's Baking Powder, and one teaspoonful salt. Then add three eggs well beaten, one tablespoonful lard and three cups sweet milk. Cook immediately.

SUET AND BUTTER PASTES FOR BOILED MEAT OR FRUIT PUDDINGS.—Six ounces of chopped suet, three quarters of a pound of flour, and a little salt. Mix together, and mix lightly with cold water, roll it out; butter a pudding basin, line it with the paste, and fill the pudding with whatever is required; wet the edge of the paste, and cover the pudding with the top crust; tie over with a buttered and floured cloth, and it is then ready for boiling. For butter paste use six ounces of

butter to three quarters of a pound of flour, rubbing the butter into the dry flour before mixing to a dough with water.

RASPBERRY AND CURRANT PUDDING.—Take equal quantities of picked raspberries and red currants; fill the above pudding with these, and about ten ounces of sugar. This is always a good combination, as the two fruits act well on each other. Boil an hour and three-quarters.

BLACK HEART CHERRY PUDDING.—Fill the above pudding with black heart cherries, add half a pound of sugar, and the juice of half a lemon. Boil two hours.

CHERRY SALAD.—Stone a quart of fine ox-heart cherries and put them in a glass preserve dish; dust them with powdered sugar and pour over them half a wine-glass each of curaçoa and sherry. Mix lightly and serve.

Fog.—Fog and its causes have been the subject of much discussion. By one writer the celebrated London fog is attributed to the cooling of the air by radiation from hillsides near the city, which air, flowing down, envelopes the city. It has also been suggested that a cool northerly wind on the west side of a storm flows into the saturated air on the south side and condenses fog. In Newfoundland it is thought that fog is produced by the flowing of a saturated current from the southward to cooler waters, which often have ice floating in them. In none of these cases, however, does it seem that the theories advanced have been substantiated, and the subject offers an interesting field of investigation to the scientist.

BRICK MAY SUPERSEDE WOOD.—There seems to be a very grave question agitating the minds of architects and builders regarding the building material of the future. The timber is being used faster than it can possibly grow; stone occurs only in isolated places, and rarely, if ever, contingent to places where it is needed in great quantities for building purposes, but material for making brick is in abundance everywhere. As a matter of fact, in spite of the modern use of "fireproof" materials in building, nothing will withstand the onslaught of extensive fires equal to good brick.

BIRD INSTINCT.—The French Government has just been warned that a great ornithological calamity is impending. The Department of the Bouche du Rhone has hitherto been one of the chief landing places for swallows coming from Africa. Wires connected with electrical batteries were laid in hundreds along the coast, and as the birds, tired with their long flight, perched on these, they were struck dead. The bodies were then dressed and sent on to Paris for ornamental purposes. This has been going on for years, but this spring it has been noticed that the swallows have not landed on the low-lying coast, but have gone further west or east, and they are reported in other parts of Europe to have come in larger quantities than formerly. A plague of gnats and other flying insects would emphasize this warning, which comes from the Zoological Society of France.

ARTIFICIAL DOUBLE FLOWERS.—Prof. Peyritsch has submitted to the Imperial Academy of Vienna the results of a large number of experiments tending to show that double flowers may be artificially produced by the agency of a mite (*Phytoptus*). In examining a double wild flower, the professor noticed that it was infested with the mites in question, so he transferred them to other plants of different orders. Various kinds of doubling were produced, such as petalody of the stamens and pistil, proliferation and duplication of the corolla, etc., as well as torsions and fasciations of the shoot. The leaves also were affected, the margin showing teeth like those of a comb. By infecting the plants at different times, either the leaves or the flowers may be influenced, and to have the full result the parasite must attack the organ in its earliest stages. Prof. Peyritsch thinks that certain mites produce double flowers in certain plants.

MICA AS A LUBRICANT.—Accounts from Denver state that mica, ground very fine, has been used on the Rock Island road as a lubricant with great success. The agent of the road reports that journals which come in very hot can quickly be cooled down by the mica. One journal which came in excessively heated was sent forward as soon as the lubricant was applied, and from advices from different stations on the road it was found that it had cooled off and was running all right. The experiments were made with crude oil and mica, and also with mica and the residuum from the wells, which is a much cheaper grade of oil.

OUR GOOD REASONS WHY.

We have been asked why we "so emphatically endorse and recommend as a most valuable alternative medicine, Ayer's Sarsaparilla?" We do so for the very excellent reason that it is worthy of such endorsement. Here are a few plain statements of fact that are worthy of the serious consideration of our readers.

The medicine in question has been offered to the public now some forty years, and its hold upon popular esteem has been strengthened by experimental knowledge of it, in all that time, in every country on the surface of the globe. When it was first made, its exact formula (accompanied by samples for analysis and test), was furnished to every practicing physician in the United States and to those of all other countries who chose to apply for it. And to-day any doctor who asks for that formula is promptly supplied with it. It is, consequently, universally accepted as a standard alternative medicine and prescribed by the best physicians. Repeated tests have demonstrated that its excellence has stood the test of time, that it has never deteriorated or been cheapened in its production, to enhance the profits upon it after it had become popular, as has been the case in certain other preparations that might be mentioned. It is still what it was when first put forth, a perfect combination, in their purest forms of the most effective alternatives known to medical science. What these are, it is well that everybody should know. The principal ingredient is the extract of Honduras sarsaparilla, which is the strongest and most valuable medicinally of all the varieties of this plant. The house of J. C. Ayer & Co. have, for many years, controlled the entire importation to this country of the Honduras sarsaparilla and utilized it all in their product, thus retaining a very great advantage over all rivals in the superior quality of their preparation. They also monopolize the yellow-dock produced by the Shakers, who grow very nearly all of it that is cultivated in this country, and twice, within a few years past, the company have voluntarily increased the price of the root, to encourage the Shakers to enlarge their production, which is contracted for years in advance. This yellow-dock is the second in importance of the vegetable ingredients in Ayer's Compound Sarsaparilla and is another of the features of peculiar excellence possessed by it above others. To these are added mandrake—with the active principle of which, under the name of "podophyllin," most intelligent persons are familiar—and stillingia. The iodides of potassium and iron are also added to the compound. The question may properly be asked: "Why, if its ingredients are so well known, may not other manufacturers, or even any ordinary dispensing chemist, make the compound equally well? There are several reasons. One has already been given in the statement of the monopolization of the supply of the most important ingredients, by J. C. Ayer

& Co. Another is in the requirements of manufacture. So volatile are some of the most valuable medicinal principles of the vegetable materials employed, that they are altogether dispelled by heat. A cold process of extraction is absolutely necessary. But this can only be profitably used where an immense business warrants manufacture in enormous quantities. Ayer & Co. make twenty-seven barrels of compound extract of the vegetable ingredients at once, and in doing this employ patented processes and machinery, requiring the constant application of power to the huge hermetically sealed tanks in which the work is carried on, during many successive days, for each lot. And only in a business of such stupendous magnitude would profit be found in the very small margin over actual cost of production, where so high a standard of quality is maintained as is required by this house. The deservedly high reputation of the house of J. C. Ayer & Co., is in itself an excellent guarantee that both honor and interest are concerned in keeping their medicine fully up to the standard of excellence that won for it the favor of the world. That it is to-day what it always has been, and that it merits all the encomiums we have applied to it, anybody can readily satisfy himself by a little inquiry among his friends, for those who have used Ayer's Sarsaparilla and received benefit from it are in the majority in every American community, and are at least numerous in every habitable portion of the world.

BUSINESS NOTES.

DO YOU SHARE THE RESULTS?

Why not use other people's brains as well as your own in order to lessen life's work, and especially so when the coming hot weather will make life a burden to those who have to do laborious house work? The very word "Pearline" sounds clean and sweet enough to recommend even a poorer article. But "Pearline" does as clean and as sweet work as its name implies. Now, if there be a housekeeper among the thousands of *Witness* readers who has hitherto lived so far beneath her privileges as not to have used "Pearline," surely she will at once purchase a packet and test what it will do for her. "Pearline" represents brains. That is, it is the product of long and hard processes of thought, investigation and experiment. You are invited to share the results.—*From New York Witness, June 12, 1889.*

AS A DRINK IN FEVERS

USE HORSFORD'S ACID PHOSPHATE.

Dr. Chas. H. S. Davis, Meriden, Conn., says: "I have used it as an accessory in cases of melancholia and nervous debility, and as a pleasant and cooling drink in fevers, and have been very much pleased with it."

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

GABRIEL'S MARRIAGE,

By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,

By ETTA W. PIERCE.

THE RIGHTFUL HEIR,

By M. T. CALDOR.

THE DOUBLE HOUSE,

By MISS MULOCK.

TWICE SAVED,

By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents.**

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the **AMERICAN ANALYST.**

ANALYST PUBLISHING CO.,
19 PARK PLACE, NEW YORK.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. H. & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alays the thirst, aids digestion, and relieves lassitude.

"Dr. T. C. Smith, Charlotte, N. C., says:

"An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop."

Dr. J. S. Niles, Pownal, Vt., says:

"Excellent as a tonic, and refreshing as a substitute for lemonade."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

CENTRALLY LOCATED.

Sturtevant House, Broadway, cor. 29th Street, N. Y.
American and European plans. Board \$3.00 to \$4.00
per day; rooms \$1.00 and upward.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.




BLAIR'S PILLS
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.
Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.



FACIAL BLEMISHES
The Largest Establishment in the World for the
treatment of Hair and Scalp, Eczema, Moles,
Warts, Superfluous Hair, Birthmarks, Moth,
Freckles, Wrinkles, Red Nose, Red Veins,
Oily Skin, Acne, Pimples, Blackheads, Scars,
Pustules, Facial Development, etc. Send
10 cts. for 128-page book on all skin im-
perfections and their treatment.
JOHN H. WOODBURY
DERMATOLOGIST.
210 West 42d St., New York City, N. Y.
Use Woodbury's Facial Soap. By Mail, 50 cts.

Crayon Portraits

Artistically reproduced from
old photographs, tintypes or am-
brotypes. Moderate prices.

MRS. F. M. G. PENDER,

STUDIO:
47 WEST 22d STREET,
NEW YORK.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

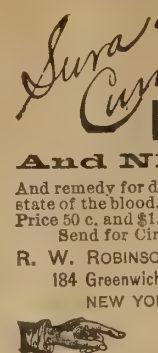
"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



**SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.**

Lea & Perrins

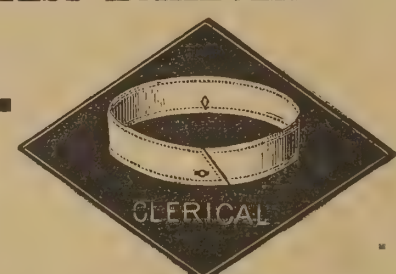
Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure
state of the blood. An antidote for **MALARIA**.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

GOOD SOLICITORS
For SUBSCRIPTIONS Wanted. Apply
ANALYST PUBLISHING CO.,
19 PARK PLACE, NEW YORK.

LATEST ACHIEVEMENT IN

Celluloid  **Cuffs**
Collars, **and** **Bosoms.**

GEO. CLEMENT & CO.

The Celluloid Company confidently assert that they have attained the highest improvement in their Water-proof Collars, Cuffs, and Bosoms, which has ever been reached in this line of waterproof goods. We have examined their latest improvements, and tested them by every means at our command. We are convinced that they have never been excelled, and we are ready to give them our heartiest indorsement. They are pliable, most durable of any goods on the market, and resemble linen more perfectly than any waterproof imitation. Some strangers who have little acquaintance with these goods are under the impression that celluloid is an explosive material. This is an entirely erroneous idea. We can hold celluloid upon the hottest argand burner, and it will melt, but never ignite. The linen interlining makes it much stronger than any other goods in this line. We shall be glad to have any and all of our former patrons try these goods and write us their opinion of the same.

A full assortment of Celluloid Collar Buttons at 5 cents each by mail, post paid; and Cuff Buttons from 25 cts., to \$1.00 per pair by mail. These buttons are durable and never tarnish the Collars and Cuffs.

CELLULOID COLLARS and CUFFS cost no more than linen—look better and wear longer. They never wilt from perspiration, are always white, clean and fresh; require no laundrying—are manufactured in all the leading styles for both Ladies and Gents, Girls and Boys. When soiled, simply wipe them off with soap and water. They save their cost in a week's wear. Try them.



Be sure this trade mark appears on the all goods you purchase.
Address: **GEO. CLEMENT & CO., 33 East 22d Street, New York City.**

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.

A CHARMING BOOK, INVALUABLE TO EVERY LADY.

ARTISTIC EMBROIDERY.

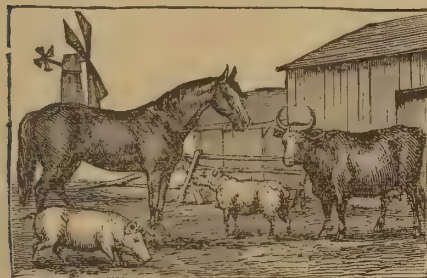
By ELLA RODMAN CHURCH.



EMBROIDERY—the Stitch; Group of Flowers; French or Flat Embroidery; the French Knot; Stalk Stitch; Point Russes; Herring Bone or Feather Stitch; Chain Stitch; Ladder Stitch; Chinese Embroidery; DESIGNING AND TRANSFERRING DESIGNS; ARTICLES IN SILK EMBROIDERY—A Screen of Peacock Feathers; Banner Screen; Embroidered Table Top; Window-Curtain Border; Embroidered Dresses; Panels; Small Curtains or Hangings; an Embroidered Room; a Fan Table Cover; a Chair Cover; Fire Screens; a Child's Afghan; PRINT WORK; SILK EMBROIDERY WITH GOLD—Materials Used; Gold Cord; Gold Braid; Bullion; Spangles; Gold Thread; EMBROIDERED BOOKS AND OTHER ARTICLES; APPLIED WORK WITH EMBROIDERY—A Lambrequin in Applique; Silk Applique Work; Cretonne Work; Crane Pictures in Applique; Linen Applique; EMBROIDERY IN CHENILLE; SILK EMBROIDERY ON LINEN—Embroidered Fruit Doilies; HOLBEIN WORK; CHURCH EMBROIDERY; LINEN LACE WORK—Point Conté; Rosettes, Insertions, etc.; Point Coupe; Point Tite; Imitation of Antique Lace. ARTISTIC EMBROIDERY is a large 12 mo. book of 128 pages, handsomely bound in paper covers, and profusely and elegantly illustrated. It will be sent by mail post-paid upon receipt of only **Twenty-Five Cents**, and is guaranteed to be the best book of the kind ever offered at this low price.

ALL ABOUT HORSES, CATTLE, SHEEP AND HOGS.

The American Live Stock Manual.



No subject is of greater importance to the farmer than that of Live Stock, and few there are who have not much to learn regarding it. Many a man has lost a valuable animal for no other reason than that he did not know how to take care of it when well or to treat it when sick. THE AMERICAN LIVE STOCK MANUAL is a book the cost of which is but trifling, but it is simply worth its weight in gold to every man in America who owns a horse, a cow, a sheep or a hog, for it is a complete text-book, containing the fullest information regarding the care and management, feeding and rearing, of live stock, likewise directions for the cure of all diseases peculiar to these animals and of all unruly and vicious habits, for the construction of necessary buildings and conveniences, etc., etc. The following are only a small portion of the topics treated in this book: How to Judge a Horse; Feeding Horses; Raising a Colt; To Bit a Colt; To Break Horses from Pulling at the Halter; Warts on Horses; Stumbling Horses; Cure for Balky Horses; Kicking Horses; Training Vicious Horses; Galls and Sores on Horses; Reining Horses; Colic; Piles; Founder; Swabs; Epizootic; Shying; Scatches; Ringbone; Spavin; Choking; Bruises; Hide-Bound Horses; Avoiding Indigestion; Worms; Over-Feeding; Sanitary Management of Hogs; To Prevent Hogs Becoming Diseased; Raising Sheep; Washing Sheep; Sheep Rot; Hurdling Sheep; To Tell the Age of Sheep; SheepTicks; Early Lambs; How to Make Sheep Feed; Increasing the Growth of Wool. THE AMERICAN LIVE STOCK MANUAL is a large book of 128 pages, 12mo, with handsome cover, and is profusely illustrated. It will be sent to any address by mail post-paid upon receipt of only **Twenty-Five Cents**. Send for it! The price is but a trifle compared to its real value to every farmer.

Four Books in One! No Household is Complete Without It!

THE COMPLETE BOOK OF HOME AMUSEMENTS.



What most lives need is more sunshine. Let us banish care, have a good time, enjoy ourselves while we may. How much happier—how much better off—are those homes wherein the father and mother, and even the gray-haired grandfathers, join with the children after tea in a merry game or other amusement, than those wherein reticence and reserve and chilly demeanor prevail. "But," you say, "what shall we do? We read until we are tired; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful book it is. It contains 64 large 3-column quarto pages, neatly bound in handsome covers, and is filled to the brim with every conceivable thing for the enjoyment of home. It is in reality four books in one, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It is a complete text-book for Public and Private Entertainments, Private Theatricals, Parlor Exhibitions, Social Gatherings, School Exhibitions and Evenings at Home. It is a book for old and young, grave and gay—a veritable storehouse of good things for all. It contains a number of ACTING CHARADES, with full directions how to perform them. It gives some very excellent PARLOR DRAMAS, easily acted yet very amusing. It tells all about SHADOW PANTOMIMES, and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful TABLEAU VIVANTS, and gives full and explicit directions for performing them. In it are so many amusing PARLOR GAMES that we have not attempted to count them, but we think we have almost everything, new and old, that was ever thought of in the game line. Then we come to a lot of wonderful ILLUSTRATED FROZZLES—fantastic, perplexing, apparently intricate, but so easy when you turn to the proper places and learn the answers. Here also is a savory dish of RIDDLES, ENIGMAS, CHARADES, ETC.—a nice large lot of them. How young and old heads will puzzle and study over them, and how proud you will feel when you have solved one correctly. As to CONUNDRUMS, there are nearly a bushel of them, some so funny you will want to hold your sides with laughter, and what fun it will be for one of the company to read the questions and see who can give the answers! A considerable portion of the book is allotted to PARLOR MAGIC, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are a lot of amusing and instructive CHEMICAL EXPERIMENTS, showing how the combination and manipulation of the simplest agents will produce the most surprising results. Following these are a number of excellent DIALOGUES, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest RECREATIONS, dramatic, pathetic, sentimental, and comic, ever written. It is handsomely illustrated, and is indeed a splendid book. THE COMPLETE BOOK OF HOME AMUSEMENTS will be sent by mail, post paid, to any address, upon receipt of only **Twenty-Five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS

FREE.

TO any one who will send us One New Subscriber to the AMERICAN ANALYST for one year, at \$1, we will send, Free, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the AMERICAN ANALYST. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.
By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,
By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

SWIFT'S

CHOICE

Chicago Dressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,
CHICAGO, ILLS.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.		Price including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 35
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 35 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

STEWART CERAMIC CO.,

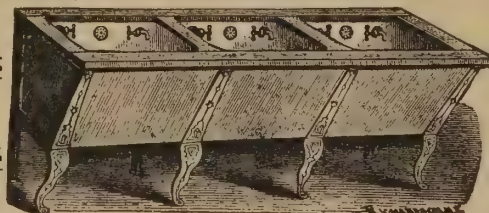
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose purious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM.

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition :	ALBUMINOIDS.....	19 Parts.
	MILK SUGAR.....	64 "
	FAT.....	10 "
	MINERAL MATTER.....	3 "
	CHLORIDE of SODIUM added.....	1/2 "
	PHOSPHATES of LIME added.....	1/2 "
	MOISTURE.....	3 "

SEND FOR SAMPLE and compare it with every other food used in artificial feeding of Infants.

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. A SEDATIVE, NERVE AND BRAIN FOOD.

(GRANULAR EFFERVESCENT.)

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	WITH DIGEST AND ANALYST. PRICE.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of M.d. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the
Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.
Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE

VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Leading Numbers: 14,048,128; 130, 135, 333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

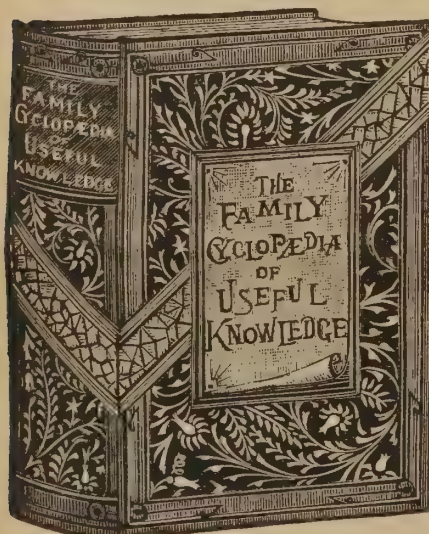


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

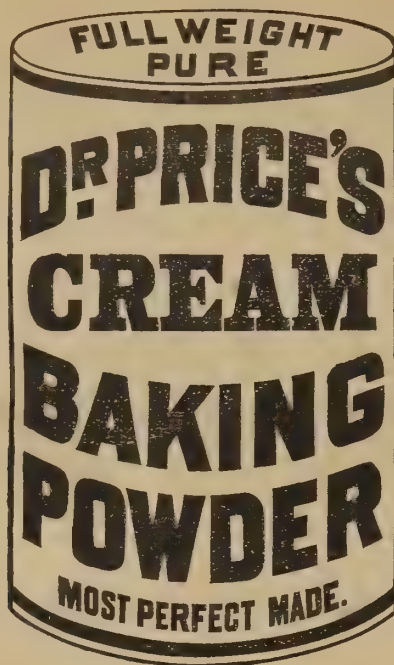
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

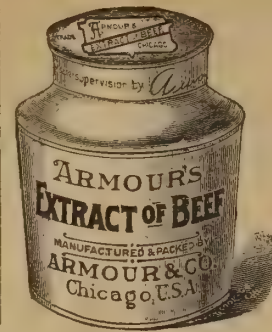
ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.



[SOLID.]

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

That Happy, Darling Baby,

bringing delight and gladness to the home, is so not merely because it gets enough to eat, but because it has the right kind. It is fed on

RIDGE'S FOOD

None genuine without WOOLRICH & Co. on label.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 28.

NEW YORK, THURSDAY, JULY 11, 1889.

WHOLE No. 124.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Business Notices.....	330
Domestic Dietetics.....	329
Dressed Beef Triumphs.....	326
Editorials.....	325
Exploding a Fallacy; The Flowers that Bloomed Last Spring; "Donna Ferentes"; French Flats in New York.	
Evolution of Table Cookery.....	327
Its English—You Know.....	328
Kitchen History.....	327
Local Inspection Laws Unconstitutional.....	326
Mumm Squelched.....	326
Open Letter to Mr. Mumm.....	327
Outlandish Foods.....	328

EXPLODING A FALLACY.

There is a prevalent impression, based upon we know not what traditions of overwise medical men and superstitions of over-ignorant old women, that the use of ice-water as a beverage is always fraught with danger. We are gratified to observe that the editor of the *Sanitary Volunteer*, the official organ of the New Hampshire Board of Health, takes up the cudgels in opposition to this sweeping denunciation of a drink that under proper conditions should be accepted as delicious and wholesome. He says, truly that there is a great deal of sentiment, and many opinions, regarding the use of ice-water, that vanish when the light of reason and experience is turned upon them. The fact is, that ice-water, drunk slowly and in moderate quantities, constitutes a healthful and invigorating drink. There is no doubt that ice is a great sanitary agent, and every family ought to be provided with it during the warmer months of the year. It is true that the inordinate use of ice-water, or its use under some special conditions

and circumstances, is attended with great danger; so is improper use of any other drink or food. The assumption that iced water is dangerous, and that iced tea, or iced coffee, or iced lemonade is a harmless substitute, is simply a delusion. As the source of danger feared by some is the degree of cold, we fail to see clearly how flavor modifies the effect of temperature. There are some individuals, undoubtedly, who cannot drink ice-water without injury, and who ought never to use it, but to a great majority of persons it is refreshing and healthful. Its use, temperate and discreet, is in no way to be condemned, which cannot be said of some of its substitutes.

THE FLOWERS THAT BLOOMED LAST SPRING.

Last spring's legislation is already beginning to bear fruit, and the two or three States which decided to ostracise Chicago dressed beef are gradually awakening to the fact that they made a great blunder. We learn from the *Chicago Herald* that an Indiana judge has declared unconstitutional the law requiring that beef sold within a county or State shall have been inspected on the hoof within the limits of the State. The law, he says, is clearly an interference with Interstate commerce and an assumption of power which rendered the articles of confederation between the original colonies a rope of sand, and which the Constitution expressly withheld as inconsistent with the unity of the nation. This is the first case brought before the Indiana courts, and the view taken is so manifestly correct that it is only a question of time for it to be universally adopted and applied wherever such legislation has been attempted. The States which repudiated the unwise schemers can congratulate themselves both that they have no silly class legislation to rescind, and that they have not been deprived during the past few weeks of the excellent beef to which they had become accustomed. Everybody will be content now—excepting the unwise law makers who have probably ended their political careers.

The full text of Judge Johnston's decision will be found in another column of this issue.

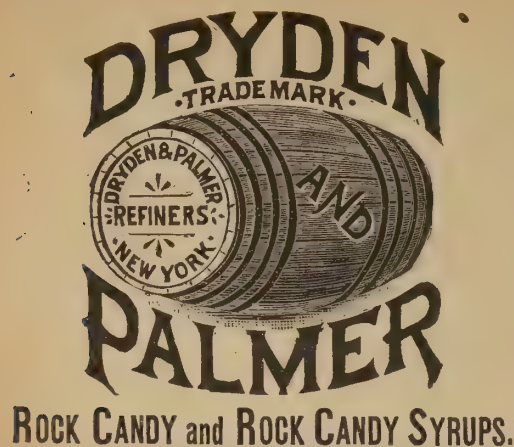
"DONNA FERENTES."

Business men in the West seem to be somewhat suspicious of Eastern business methods. The *Commercial Bulletin*, of Minneapolis, sounds a warning against a species of humbug that we infer must be a novelty out there, though its counterpart is familiar enough in this portion of the continent. It says: "The *Bulletin* wishes to warn its readers against a concern that has just come to the city, and which advertises to give away diamonds, gold coin and valuable jewelry to purchasers of teas. It is always safe to assume that where a firm offers to give away ten dollars' worth of goods for a farthing that there is something wrong somewhere. Good business principles do not admit of that way of doing business.

The jewelry is brass and the diamonds are worthless. There are many honest retailers in the city—men who have invested their money here and are aiding in its business growth—and they should be patronized before any wild-cat concern that is running around the country to draw people into their patronage by bogus promises. Beware of diamond tea men of this stamp. Residents of the country should not be deceived by glowing advertisements."

FRENCH FLATS IN NEW YORK.

The rapid growth of this city's population, and the attendant increased value of real estate in New York, are rapidly rendering the owning of one's residence in town an impossibility except to persons of extensive means. Rents likewise are very high, ranging in the thousands in all sections, excepting those from which fashion has been expelled by the aggressions of trade. It was once predicted by the late A. T. Stewart that the day would come when there would not be a residence building remaining on Manhattan Island, the entire space being occupied by business houses. That day is yet in the remote future, but it is an unquestionable fact that business is incessantly encroaching upon localities that a very few years ago were considered securely removed from all risk of its contaminating touch. The problem of providing residences for persons in moderate circumstances is partially solved by the erection of a vast number of apartment houses, supposed or pretended to be constructed on the model of the French flats, which model, however, only in exceptional instances bears any resemblance to the original after which it is named. Close and stuffy as they for the most part are, with light admitted only at the front and rear windows, and lacking in almost all the convenient accessories which impart to the French establishments the comforts of domestic privacy and independence, these New York "flats" are the only substitutes for cheap houses, and are in such demand that those of average convenience already bring larger rents than can be obtained for commodious and well-located houses in other cities. Still, if the European models could be more closely followed, these apartments would be both attractive and desirable, for it is true, as a writer in the *Springfield Republican* affirms, that "in no city can one live so absolutely as he pleases as in Paris, and still be respectable and fashionable. It was some time before New Yorkers took kindly to modern flats, with their possible improvement and convenience. High life of that kind was not to their taste. But in Paris you find the best people living upon some narrow street, and you climb up flight and flight of winding stairs until the fourth and fifth and sometimes the sixth stage is reached, where you stop to breathe and wonder how any American could have pitched his tent so high. Once inside, however, the wonder ceases, or rather takes another channel, as you find yourself in the large, airy and handsomely-furnished rooms where so many of our people live quite as comfortable and with far less care



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

than they can at home. 'I would not go back to America again, with all the worries of housekeeping, for the world,' I heard a lady say, while her companion, fresh from the worries of American housekeeping, was ready to take them up again, and would not stay here for all the world. And so opinions differ. But of the two I think the Parisian housekeeper has the best of it, with better servants, smaller wages, and so many troublesome things done outside—no washing or ironing, for this is done by the blanchisseuse, and no bread-making, for the bakers furnish all that, and of an excellent kind, too."

DRESSED BEEF TRIUMPHS.

THE INSPECTION BILL DECLARED UNCONSTITUTIONAL BY
AN INDIANA COURT.

The last legislature of the State of Indiana passed an act prohibiting the sale of fresh meat in any of the counties of the State, unless the animals had been first inspected alive within the county where the meat was to be offered for sale. James B. Harvey, an agent for Swift & Co., was arrested at Hammond, Ind., last week and fined \$50 by a local magistrate for selling dressed beef slaughtered in Chicago. He was committed to jail for failing to pay his fine. He was taken before Judge William Johnston, Judge of the Porter Circuit Court, on a writ of habeas corpus, where he filed exceptions, putting in argument the constitutionality of the act under which he was fined. Judge Johnston has given an able and elaborate opinion in which he holds that the law under which Harvey was fined is unconstitutional, and he discharged the prisoner. In his opinion, Judge Johnston quotes from many authorities and cites parallel cases. He picks the new law to pieces, taking up section by section, and grows facetious as he quotes the title of the act—"for the protection of the public health." The case is the more interesting as it is the first one under the new law. The gist of Judge Johnston's opinion is as follows:

JUDGE JOHNSTON'S OPINION.

"If this statute is constitutional and valid, then the relief prayed for cannot be granted; otherwise the petitioner is entitled to the benefit of the writ and should be discharged." Courts are loth to interfere and should be very guarded and careful in rendering any opinion that destroys the effect of an act of the legislature, but when such act is clearly unconstitutional, they should not hesitate to so pronounce it.

"This statute amounts to a prohibition against the introduction into our State, for consumption, of all dressed fresh meats. None other can be marketed in our cities except such as has been inspected alive within the bounds of the county and State in which the city is situated, or such as farmers within the State may have raised or fed and slaughtered. It is well known that

dressed fresh meat has become an important article of commerce, and is quite extensively shipped from one State to another as well as into foreign countries. In fact, in very many of our cities our meat markets are largely supplied with fresh meats shipped from adjoining States. It is then, judged by the authorities on the question, an article of Inter-state commerce. Whenever any article has begun to move as an article of trade from one State to another, commerce in that commodity between the States has begun.

"In 'Webster's Unabridged Dictionary' 'commerce' is defined as 'the exchange of merchandise on a large scale between different places or communities.' This embraces two distinct ideas: First, that of exchange in its largest sense, including barter, the giving of one commodity for another, and sale, the exchange of an article of property for money, the representative of all values. From this definition it will be seen that there can be no commerce unaccompanied by exchange or sale. The other idea embraced in the definition is that of transportation, for to constitute commerce the exchange must be between different places or communities; and any law that either prevents the transportation or sale of merchandise totally destroys commerce by the exercise of that power alone. Commerce, then, involves the idea of carrying the commodity intended for exchange to another place where, we may say, the market is to be held and the sale accomplished. Hence, without both transportation and liberty of sale there can be no Inter-state commerce.

"No power of Congress has been more jealously guarded against than this, and the attempt of different States in varied forms to evade it in pursuit of some partial and temporary advantage and the uniform and wise ruling of the Supreme Court of the United States against all attempts to evade and avoid this exclusive power of the national legislature, are one of the most interesting subjects of federal jurisprudence. It may, however, be contended that the act in question is a proper exercise of the police power of the State, and as such ought to be upheld. As the police power of the State in its range comes very near the field committed by the Constitution to Congress, it is the duty of the courts to guard vigilantly against any intrusion. What the police power is, it is difficult to define with a sharp precision. It is generally said to extend to making regulations promotive of domestic orders, morals, health and safety. It extends to the protection of lives, limbs, health, comfort and quiet of all persons and the protection of all property within the State. It may also be admitted that the police power of the State justifies the adoption of precautionary measures against social evils under it. A state may legislate to prevent the spread of crime or pauperism or disturbance of the peace. It may exclude from its limits convicts, paupers, idiots, lunatics and persons likely to become a public charge, as well as persons afflicted with dangerous and infectious diseases, and would justify the exclusion of property dangerous to the citizens of the State; for example, animals having dangerous and infectious disease; but, whatever may be the nature and reach of the police of the State, it cannot be exercised over a subject confined exclusively to Congress by the Federal Constitution. It cannot invade the domain of national government.

"It is then no answer to the charge that such regulation of commerce by a State is forbidden by the Constitution to say that it falls within the police power of the State. For, to whatever class of legislative powers it may belong, it is prohibited to the states if granted exclusively to Congress by that instrument."

Referring to a case in the Supreme Court the Judge said: "It would hardly be expected that such a court would hold that a State may not restrict traffic in alcohol (which possesses no virtues of food or drink), but may absolutely prohibit all commerce in fresh meats. The act of the legislature under consideration makes no distinction between the good and the bad, but all alike is indiscriminately condemned. The act provides that all uncured meat from every other State—the good, the pure, the wholesome, with the tainted and diseased—shall alike be excluded from the cities of the State. And this, it is said in the title of the act, is 'for the protection of the public health.'

"The third section of the act provides that 'nothing herein contained shall prevent or obstruct the sale of cured beef or pork known as dried, cured or canned beef or smoked or salted pork, or other cured or salted meats.' Note the use of the word 'prevent' in this section. Its employment here tends to the conclusion that the legislature understood the first section had prohibited the sale of uncured meats from other States. It was this which in the opinion of the law-makers, rendered the proviso necessary, saving other meats from its operation. By this third section all kinds of meats cured, salted, smoked or dried, no matter how badly the animals from which they were taken were diseased, nor whence they came, are welcome to admission and the market is open and free. Thus, pure, dressed fresh

beef is excluded, and tainted and diseased, canned salted, smoked and dried meats are invited. It seems apparent that the purpose of the act was to exclude foreign dressed meats from the city markets of Indiana; and if such be the case, a consideration of the police powers of the state is unnecessary. Nor can the legislation be sustained as a mere inspection law. The State of Indiana need not admit to her markets meat which is unfit for human food, and she may take such steps as are necessary to ascertain whether or not it is so. When she has ascertained that it is non-commercial, she may exclude it; but no declaration, however solemn, and no pretext, however suspicious, will authorize her to exclude a product which is pure and harmless. It does not provide for the inspection of the commodity for the purpose of ascertaining its quality. It proceeds upon the theory that all uncured meat is noxious and injurious to health. It excludes it in advance and without examination to ascertain its condition. It pronounces judgment without a hearing. All uncured meat is condemned, interdicted, excluded. It has never been regarded as within the legitimate scope of the inspection laws to forbid trade in respect to any known article of commerce, irrespective of its condition and quality, merely on account of its intrinsic nature and the injurious consequences of its use or abuse. The very meaning of inspection is that there should be an examination, and not an exclusion without a hearing. The object of inspection laws is to improve the quality of the articles produced by the labor of a country, to fit them for exportation, or it may be for domestic use. They act upon the subject before it becomes an article of foreign commerce or of commerce among the States, and prepare it for that purpose.

Another provision of the Constitution of the United States with which this act appears to come in conflict is Section 2, Article IV.—"The citizens of each State shall be entitled to all the privileges and immunities of the citizens in the several States." Inasmuch as a resident of the county—for example, Lake County—is entitled to have his animal inspected at home on his own premises, and the citizens or resident of Porter County, Indiana, or of Cook County, Illinois, each adjoining Lake, is obliged to produce his animals for inspection at some point in the latter county, remote from his home and his farm, it is an unauthorized and unjust discrimination, and obnoxious to the constitutional provisions above named."

"Other reasons might be given and authorities cited, but it is unnecessary to prolong this opinion. I have no doubt but the sole purpose of the act was to exclude foreign dressed meat from the city markets of Indiana. The act, therefore, invades the exclusive right of Congress conferred on it by the Constitution and is void. The exceptions to the return to the writ are sustained and the petitioner is discharged."

MUMM SQUELCHED.

AN OPEN LETTER FROM MR. ARPAD HARASZTHY.

At a regular meeting of the Grape Growers and Wine Makers' Association of California, held in San Francisco June 18th, Mr. Arpad Haraszthy, in speaking of champagnes, referred to the interview with G. H. Mumm, recently published, in which Mr. Mumm stated that no good champagnes could be made in this country because our soil does not possess the necessary factors, the principal one of which was said by Mr. Mumm to be chalk. Mr. Haraszthy dissected Mr. Mumm's statements, and showed conclusively that Mr. Mumm, in the words of the speaker, did not know what he was talking about. So gross were the mis-statements of Mr. Mumm, Mr. Haraszthy said, he considered him merely a figurehead who left all his business to peasants and cellar-men. In the interview Mumm stated that in California champagne and Madeira were grown in the same vineyard on the same hillside. "Whoever told Mumm that filled up him to the crop," said the speaker. Mr. Haraszthy said he felt called upon, not only in his own interests, but in those of all the wine-makers he dealt with, to defend as far as he could the possibilities and the continued possibilities of champagne-making in California. Mr. Mumm also claimed that the American production did not possess sufficient effervescence by reason of the lack of soil containing chalk. "Now," said Mr. Haraszthy, with a smile, "I would just like to have a contract with Mr. Mumm, by which he would pay for all the bottles that explode daily in my establishment

through effervescence." Another statement of Mr. Mumm needs correction. He says that our wines are not old enough. "The older the vine, the better the wine," says he. "Now that is ridiculous, and I defy Mumm or anybody else to show me a bearing vine twenty years old. He makes other equally absurd statements that are not worth referring to. The whole amount of the thing is this: Mr. Mumm don't know anything about champagne."

Mr. Haraszthy concluded his remarks by reading to the Association, the following open letter which he has addressed to Mr. Mumm, in regard to his alleged allegations regarding California champagnes.

OPEN LETTER TO MR. G. H. VON MUMM.

Sir: Referring to a statement credited to you by the Eastern press that it is impossible to make champagne in California, I beg to ask you a few questions, to ascertain if possible, where your disinterested opinion ends, and where the desire to advance the interests of your firm begins: And as you have, without provocation, deliberately gone out of your way to injure the champagne interest of our State, I take the liberty of giving a point to my questions. Do you not know that climate exercises greater influence on the character of wine, than soil itself? Do you not know that while parts of California are covered with snow half the year, others have a perennial spring the year around, and still other parts vary between these extremes? Do you not know that we have whole counties lying on carbonate of lime formations, covered with light clay, mingled with silica and oxide of iron, and that this character of soil is practically the same as that existing in the champagne district. Do you really not know that the effervescence of champagne is created solely by the fermentation of sugar, and not by the character of the soil? If you knew this, as you should, then what motive induced you to say to the contrary? Have you ever studied the characteristic differences of any one of our three hundred grape varieties, in different parts of our State? If not, how can you know of our possibilities? Have you ever made a comparison of the wines of all, or any, of our different wine districts? If not how can you presume to judge of their future? Now, is it not a fact that you have never set your foot on our soil, and therefore you really know nothing whatever of the matter in question? Is it not a fact that while the champagne district produces a limited quantity of fine wine, that other parts produce large quantities of inferior, thin, acid, flavorless wines and that you yourself have admitted that these all go into the blends of the various various champagne firms? Is it not a fact that low, cheap grade wines from other parts of France are also very largely used in those covers or blends? And is it not also a fact that these wines, at the time of shipment are sweetened with syrups, artificially flavored with materials not coming from the grape nor grown on your much vaunted chalky soil? Is it not also a fact that the claim of superiority of most French champagne is owing more to the cleverness of artificially flavoring the syrups, than to your grapes, your climate or your talk? If this is not so, will you explain how certain brands take so strongly the green tea, pineapple, pear, spitzberg apple, and other flavors not natural to any grape, and never found in any pure champagne wine, until after the syrup has been added. In other words tell us plainly whether or not it is the flavoring of the syrup in French champagne artificially, that gives the high quality you desire our people to believe comes solely from your chalky soils? Very respectfully,

ARPAD HARASZTHY.

TIN PROSPECTS.—The problem of separating the mica in the tin ores by a simple and effective process is claimed to have been solved by Professor Carpenter, of Dakota. If this should be true, says the *Engineering and Mining Journal*, and the deposits in the Black Hills prove anything like as extensive as they have been represented, it ought to aid the establishment of a vast tinplate industry to compete with the foreign producers.

KITCHEN HISTORY.

THE EVOLUTION OF TABLE COOKERY IN GREAT BRITAIN.

As given to us in scraps, scattered far and wide through tons of ancient manuscripts, is of little or no value until collected together and set side by side; it is then that the rich ripe beauty of the story impresses itself upon the diligent reader. In previous numbers we have given some few jottings which should be interesting, and have endeavored, after a fashion, to explain the extraordinary connection between the words "cock" and "cook," an association that is due to the periods of conquest and Roman invasion. Now we will go back again to early history, and take a flight among our antecedents from the time when they were as savage as New Zealanders or Maoris. Fifty years before year (A. D.) 1, the island of Great Britain is described by Diodorus Siculus as being thickly inhabited, ruled by many kings and princes, and all living peaceably together, though, "with war-chariots and strong arms to settle quarrels." The habitations were built of reed, or of wood, and they gathered in the harvest by cutting off the ears of the corn. Diodorus says that our primitive sires were far removed from the cunning and wickedness of the rest of the world and other writers contrast them favorably with the Irish, who are said to have fed on human flesh, and to have had enormous appetites for such food, and to have been given to the nasty habit of devouring their deceased fathers. "When a Hibernian mother gives birth to a male child," says Caius Julius Solinus, "she puts its first food on the point of her husband's sword, and lightly inserts this foretaste of meat into the mouth of the infant, on its very tip, and by family vows, desires that it may never die but under arms." In other words, the relations wished that the little stranger might never be in want of a row, when disposed to distinguish the family name. The ancient Britains has more than once been likened to, or compared with, the New Zealander, and a writer says "They were, perhaps, more uncivilized, and quite as ignorant, and their abstinence from the flesh of hares and poultry, and, in the northern parts of the island, from fish, bespeaks a race who lacked at once industry and knowledge. Indeed, it is by no means certain that we do not wrong the New Zealanders by suggesting their possible inferiority to the Britons, seeing that the latter are very strongly suspected of being guilty of the most revolting cannibalism." They were clever enough to brew mead and ale, but wine and civilization were brought to them by their enemies—the Romans—invaders whom, for some reasons, they might have welcomed as "our friends, the enemy." They ate but twice a day, the last meal being the more important. Their seats were skins, or bundles of hay flung on the ground; the table was a low stool, around which British chiefs sat, and even in the locality occupied by modern Belgravia, tore their food with teeth and nails, or hacked at it with a wretched knife, as bad as anything of the sort now in common use in Gaul. In fact, they behaved generally at table in a manner that would make the modern Belgravian blush with shame for their descent. The Anglo-Saxons introduced four meals a day; they ate good, solid joints of flesh-meat, boiled, baked or broiled. It would seem that in those days cooks were not of such an illustrious guild as that which they subsequently formed. A cook among the Anglo-Saxons was valued at very little higher than the calf he cut up into collops. He was a slave, and was as unceremoniously bequeathed in his owner's will as any piece of goods or chattels. At Anglo-Saxon feasts, men and women sat together as they do now, which is a mark of civilization and pronounced very refining. Turkey in Europe is the only nation that does not follow this capital example, and Turkey is all to pieces, as we know, hence the deduction is simple, that when men dine by themselves, pop goes the nation. Table-cloths were used at Anglo-Saxon feasts, and the long ends were used as

napkins, hence their condition would scarcely allow of a second use. There may have been some sort of rude display upon the board, but the style of the fittings would have upset the meekest coffee-shop in the slums of Whitechapel. The meats were not dished up, but poked under guests' noses on spits by the attendants, who, by-the-by, were wont to kneel as they offered the succulent morsel. How would our waiters now like to have to kneel as they offered dishes to the company? When the Normans came to England they brought with them greater grandeur, but what often accompanies the same, greater restraint, formality and discomfort. Table-cloths were discarded, and forks were still unknown, but their bills of fare showed greater variety and costliness. "Their cookery," says a writer, "was such an improvement on that of their predecessors in the island, that Norman French and Norman dishes flung the Saxon tongue and table into the annihilating position of vulgarity. The art was so much esteemed that monarchs even granted estates on condition that the holder thereof should, through his cock, prepare a certain dish at stated periods and set it before the king." Under the Normans the celebrated boar's head became a royal dish, and its progress from the kitchen to the banquet was under the escort of a guard and heralded by trumpeters. The crane was then what the goose is to us—highly esteemed, yet almost too coarse for refined palates. The peacock was only seen at tip-top tables, and then it appeared in all the panoply of its tail and trimmings. But, with all this magnificence, the drinks were of very undecided character, being syrupy and spicy or only cider, ale and mead. For the first two centuries after the Norman conquest, cooks and kings improved in their styles of eating and drinking. Richard II. entertained ten thousand guests daily at his numerous tables, and the Earl of Leicester is said to have spent 22,000 pounds of silver in one year for eating. "His household retainers drank no less than three hundred and seventy-one pipes of wine in the same space of time." At great banquets the dishes were reckoned by thousands, and kings in vain dictated decrees denouncing such dinners, but neither cooks nor guests seemed to pay any attention to it at all, beyond altering the number of meals to two; but "these were connected by such a savory chain of 'intermeats,'" now known as *entremets*, and refectations, that the board was spread all day long, and guests were never weary:

"Their life like the life of the Germans would be,
Du lit a la table; de la table au lit."

About this time, also, the purer wines of France, Spain, Syria and Greece became known in Britain, hence:

"Ye shall have rumney and malespine,
Both ypcocrasse and vernage wine;
Mountrasse and wyne of Greke,
Both algrade and despice eke.
Antioche and bastarde,
Pymment also and garnarde,
Wine of Greke and Muscadell,
Both clary, pymment and Rochelle."

An Italian writer, 'about the year 1300, says of the Italians, "a man and his wife ate off the same platter. There were no wooden-handled knives, nor more than one or two drinking-cups in a house. Candles of wax or tallow were unknown—a servant held a torch during supper." We live in a different time now—very different; but the table habits of our forefathers are sufficiently interesting, and, perhaps, amusing, for us to hunt them up now and again.—*British Journal of Catering.*

HOT TYPES.—A new French invention, the thermographic press, is made for printing on wood by means of hot type. As neat an impression is claimed as is obtained in lithography, and by the use of a specially prepared ink it is said that cold type may be used with equally good effect. Its speed is four hundred impressions an hour on flat wood.

OUTLANDISH FOODS.

TASTES THAT CAN BE REPUDIATED, EVEN IF NOT
DISPUTED.

Whilst some people eat too much and others nearly starve themselves, there is another class of eaters who do not care what they eat or how they eat it, and some of whom have very peculiar gastronomical tastes indeed. Such a one was the native Brazilian woman whom a Jesuit one day found wasting away from extreme old age. Having instructed her, as he conceived, in the nature of Christianity, and completely taken care of her soul, he began to inquire whether there was any sort of food which she could take. "A little sugar, now, or a mouthful of some of our nice things which we get from beyond the sea; do you think you could eat it?" "Ah, my grandson," said the old convert, "my stomach goes against everything. There is but one thing I think I could touch. If I had the head of a little tender Tapuya boy, I think I could pick the little bones; but, woe to me, there is no one to go out and shoot one for me." But if this good lady fancied something tender, that was only a failing common to most of us. Far different was the taste of an individual of whom we read in an old volume of the *Gentleman's Magazine*. This person was then being exhibited in France, and Father Paulian writes of him: "In the beginning of May, 1760, was brought to Avignon a true lithophagus, or stone-eater. He not only swallowed flints of an inch and a half long and a full inch broad, and half an inch thick, but such stones as he could reduce to a powder, such as marbles, pebbles, etc., he made up into paste, which was to him a most agreeable and wholesome food. I examined this man with all the attention I possibly could; I found his gullet very large, his teeth exceedingly strong, his saliva very corrosive, and his stomach lower than ordinary, which I imputed to the vast number of flints he had swallowed, being about five-and-twenty, one day with another. Upon interrogating his keeper, he told me the following particulars: 'This stone-eater,' says he, 'was found, three years ago, in a northern inhabited island, by some of the crew of a Dutch ship, on Good Friday. Since I have had him I make him eat raw flesh with his stones; I could never get him to swallow bread. He will drink water, wine and brandy, which last liquor gives him infinite pleasure. He sleeps at least twelve hours in a day, sitting on the ground with one knee over the other, and his chin resting on his right knee. He smokes almost all the time he is not asleep or is not eating.' The keeper also told me that some physicians at Paris got him blooded; that the blood had no serum, and in two hours it became as fragile as coral. This stone-eater hitherto was unable to pronounce more than a few words, 'Oui, caillou bon.' I showed him a fly through a microscope; he was astonished at the size of the animal, and could not be led to examine it."

All over the world have been found tribes, and even whole races, who live at times upon earth. Only recently, indeed, an account was published of several villages on the Mississippi, the inhabitants of which are of mixed French and English descent, and who resort to the eating of a red kind of clay (hydrous silicate of alumina) when run out of all other kinds of provision. This practice was probably originally learnt from the natives, for in 1613 Sir Samuel Argole, writing of his explorations in Virginia, says: "In this journey, I likewise found a mine, of which I have sent a trial into England, and likewise a strange kind of earth, the virtue whereof I know not, but the Indians eat it for physick, alleging that it cureth the sickness and pain of the belly." A medical waiter tells us that the depraved appetite for dirt-eating is so widely spread that it is one of the chief endemic disorders of all tropical America. Children acquire the habit almost from the breast, and "women as they lie in bed sleepless and restless, will pull out pieces of mud from the adjoining walls of their rooms to gratify their

strange appetite, or will soothe a squalling brat by tempting it with a lump of the same material." If this habit be commenced when young, decay usually ensues in a few years. And the same writer speaks of having himself seen a Mestizo soldier sinking from dysentery with a lump of clay stuffed in his sunken cheeks half an hour before death. The Japanese also eat a kind of clay, which they make into thin cakes, called *tanaamps*. These cakes are largely bought by the women, who imagine that the eating of them tends to give a slenderness of form. With some peoples both rats and mice are in high favor. When the French traveller Caillé, was in Africa, a Damere woman gave him for breakfast one morning some yams, and what he thought was gambo-sauce to make them palatable. On dipping his yams therein, however, he saw some little paws, and at once knew that it was mouse sauce; but he was hungry, and, moreover, a philosopher, so he continued his repast with characteristic equanimity. He often subsequently saw the women chopping up mice for their suppers. When the animals were caught, they were singed over a fire, put by for a week, and then cooked. Oftentimes people have had to eat rats from necessity, as, for instance, during the last siege of Paris, when a rat *pate* cost about a franc and a half. In the month of December, 1870, the *Paris Journal* gravely published the following directions for catching the rats which swarmed in the sewers of that city: "Take a long, strong line and a large hook; bait with tallow, and gently agitate the rod. In a few minutes a rat will come and smell the savoury morsel. It will be some time before he decides to swallow it, for his nature is cunning. When he does, leave him five minutes to meditate over it; then pull strongly and steadily. He will make convulsive jumps; but be calm, and do not let his excitement gain on you; draw him up—*et voilà votre dîner!*" From rats and mice to cats and dogs is a natural transition. During the siege, 5,000 cats were eaten in Paris, and considered delicacies. A young one, well cooked, was said to be better than either hare or rabbit. It tastes something like the American grey squirrel; if anything, tenderer and sweeter. Dogs also were eaten, and publicly sold, during the same period, and the flesh fetched from two to three francs per pound. One thousand two hundred are stated to have been consumed.

Only some twenty years ago the scientific Michelet urged upon us to regard the insect world from a dietetic point of view. Caterpillars, he told us, tastes like almonds, spiders like nuts, and, as for ants, with a little butter and sugar they make a sweetmeat fit to set before a king. But ant-eating is far from uncommon; negroes, both in Africa and their descendants in the West Indies, relish them exceedingly. So do the Indians of Central America, and Herrera states that the Panches of North Reyno de Granada keep them in yards and breed them, although he quite forgets to tell us by what means they are prevented from escaping. The Bushmen of South Africa eat white ants, spiders, grasshoppers, moths and grubs; the natives of Australia relish maggots; the Hottentots consider the uncleaned entrails of animals to be delicious eating; and many aboriginal tribes in North America revel in rattle-snake soup, boiling poison and all. The flesh of the lion is also reckoned by some tribes a luxury, but there is this drawback to obtaining it, that possibly you may furnish a dinner for the lion instead of him for you. At Christmas, 1874, some score of contributors and draughtsmen of the *Chasse Illustrée* dined together at Magny Restaurant, in Paris, under the presidency of M. Firmin Didot, to taste the ham and heart of the last lion killed in the environs of Philippe Ville, Algeria, by M. Constance Cheret. The flesh of the lion was found to be particularly firm and close grained, like that of the horse, but nevertheless quite palatable. The ham, though specially cooked, seems to have met with only a *succès d'estime* and the heart, skilfully prepared with truffles, was found somewhat tough and difficult of digestion. But a more curious meal still was that provided by an eccentric old

major, who once invited three friends to dinner, consisting entirely of sauces. The soup took the form of gravy sauce, and oyster and lobster sauce took the place of *filet-de-sole*. Egg sauce represented the sirloin, bread sauce was there to remind them of game, and brandy sauce as a hint for plum pudding. The sauce boats were duly emptied by the guests, and after each the wine was well resorted to. Two of the guests, between excess of lobster sauce and cognac, were all the worse for the banquet; but that proved rather the weakness of their stomachs than the non-excellence of the feast.

IT'S ENGLISH—YOU KNOW.

SOME OF THE DIFFERENCES BETWEEN THE ENGLISH AND
THE AMERICAN LANGUAGES.

Baggage is "luggage" in England, writes Prentice Mulford in the *Rochester Herald*. No livery stables; instead, sign of "cars on hire." No cars on railroad; all "coaches." No rails; all "metals." No conductor; instead, "guard." No depots; all stations. No boots; all "gaiters." No street cars; all "trams." No stoves. No mosquitoes. Very improper to allude to insects on plant or elsewhere as a bug; bugs in Britain belong only in beds. In England's English "to get mad" means insanity. They get angry; never mad. A roasting piece of meat is a "joint." Things are never "fixed" *a la American*; they are arranged. The English never "guess," "reckon" or "calculate;" these words belong to American-English. Wheat, corn, rye, barley, all go by the name of "corn;" corn itself is almost unknown. No wharves; all docks or piers. Most pies are "tarts." Regular fruit pies baked in deeper dishes than ours, crust only at top. Twenty millions or more people in Britain eat hearty supper at night. Table spread often as for dinner. Roast meat, potatoes and porter. No indigestion follows; never think of it. No green corn. No watermelons. No pork and beans. No buckwheat cakes. No succotash. No oysters cooked *a la stew*, fry, roast, broil or steamed. No oysters save raw or in "patties." No clams at all. No pumpkin pie. No dessert pies made in our fashion; very small affairs in small dishes. Plenty of cockles; miserable apology for our round clam. Oysters thin; not savory to American taste; kept at shops in vats of fresh water. Cod and king fish 25 cents a pound. Lobsters very high-priced. Sole, sprat, herring and other fish very cheap. No porgies. No shad. No bluefish. Plenty of mackerel. Yarmouth bleaters in early summer; never found in perfection in this country; relish during that time. Are allowed to decompose after being caught until slight bloat sets in; hence name "bloater;" afterward lightly dipped in salt and water; then briefly and delicately smoked; then broiled. Flavor so acquired doesn't last over four days; salt strikes it afterward. Peas, cabbages, beans and turnips more tender than ours; boil tender in less time. White beans called "harvest beans." Yellow turnips not eaten; deemed fit only for sheep."

THE FOUR HUNDRED.—The following is going the rounds as an extract from the *London Court Journal*: "Affairs in America are in a deplorable condition. Four hundred people in New York have secured all the Government patronage for that district, and much dissatisfaction is expressed. A Mr. Ward McAllister, an owner of a ferryboat that makes weekly trips between New York and Brooklyn, succeeded in gaining the favor of President Morton to such an extent that he was placed at the head of the patronage. The four hundred stockholders in his great ferry company are, of course, favored by him, practically shutting out every one else. Mr. McAllister, backed by the Government, got up a great dress ball which came off April 30. There was a great scramble for invitations to the ball, but they were mostly confined to the four hundred. Ex-President Cleveland wrote a note to Mr. McAllister, stating that he would like to be present on the occasion, but Mr. McAllister replied that the list for gentlemen was already full, but that he might send his wife. This the ex-President consented to do."

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

July.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, egg-plant, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb, corn, beets.

FRUITS.—Cherries, strawberries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple.

PRACTICAL RECIPES.

BACON AND EGGS.—Cut some very thin rashers of salt—not smoked—bacon, and fry on a very hot pan; they will color yellow and curl up. If there is not enough fat in the pan to fry eggs, add some that has been tried out of salt pork, and fry half a dozen eggs on one side, leaving them soft. Lift carefully to a hot dish, which should also contain the rashers of bacon, and a little round of toast for each egg; pour four tablespoonfuls of vinegar into the fat in the pan, boil up, season with pepper, and pour over the eggs and toast. Serve with baked potatoes.

CALF'S LIVER, BROILED.—Slice it and season with pepper and salt, and broil it nicely. Serve very hot and with a small piece of butter laid on each slice.

CREAMED ONIONS.—Boil the onions till quite tender, then put them into a large bowl and thoroughly bruise them; when well bruised, add thereto some milk or cream, and put the onions into a saucepan; keep stirring until the whole forms a white and creamy mass. Serve very hot.

HORSFORD'S YORKSHIRE TEA, CAKES.—One quart of sifted flour, loosely measured, mixed with two heaping teaspoonfuls of Horsford's baking powder; rub into it one ounce of butter, and then add one egg, well beaten, and mix the whole with enough sweet milk to make a thick batter; bake immediately in small cake tins or gem pans; have the tins or pans hot before filling.

RASPBERRY CREAM.—Extract the seeds from a quart of fine red berries by rubbing them through a sieve; add a quart of thick sweet cream, sweeten with powdered sugar, and whip to a stiff froth; remove the froth to the sieve, turned upside down; fill a preserve dish or small glasses with the cream, put some of the whipped cream on top, and serve up very cold.

PICKLED CURRANTS.—Heat three pounds sugar and one quart vinegar together, and in them scald seven pounds ripe currants; remove currants to a jar; boil the syrup a few moments more, and then pour it over the fruit. Three pounds of raisins and spices may be added if desired. If a sweeter pickle is liked, use less vinegar to this amount of sugar.

WHITE CAKE.—One cupful butter, three of sugar, one of milk, three of flour, one of corn starch, whites of twelve eggs beaten to a stiff froth, two teaspoonfuls of cream tartar in the flour, and one of soda in half the milk (or two teaspoonfuls of Horsford's baking powder instead of the soda and cream tartar). Dis-

solve the corn starch in one-half the milk, and add it to the butter and sugar, well beaten; add the milk and soda, then the flour, and lastly the eggs; flavor with almond or the grated rind of a fresh lemon and half the juice.

CERTIFICATE OF MERIT.—"Dear Doctor; I had a pain in my liver likewise one in my lights, I wore your electric liver pad and now I have got the electric lights. Yours truly, Dynamo.

LIGHT AND EYESIGHT.—The over-stimulating effect of light on the human eye is to be noted by the effects produced. Since the introduction of the electric light into workshops, a new disease has developed. As soon as the attention of the medical profession was called to this fact, the light was rendered less intense, and the evils caused by it have disappeared. Occasionally, however, we still find workmen who are subject to this complaint, but in every instance it is due to the non-observance of the most ordinary precautions. It is a well-known fact that men who work in furnaces or pudding mills are subject to premature cataracts. Dr. Whitney reported several cases of premature injury to the vision in Japanese students from exposure to sunlight during the last eclipse. The intense glare of the snow is also productive of blindness. The bright glare of the tropical seas produces blindness, known as "moon blindness," erroneously attributed to the effect of the rays of the moon, but in reality caused by the sun's rays. Statistics go to show that the social life of a country has much to do with the development of vision. The Germans are proverbially near-sighted. In walking through the streets of any garrisoned city of the German Empire one is struck by the number of officers wearing glasses. The English, as a nation, are far-sighted. In our own country we find the same law holding good. The community, descendants of English, retain this primal defect of their ancestors. The German community the same. Where there has been a commingling, the prepotency of the stronger is shown, and the "American eye" is the result. By this is meant the astigmatic eye. Astigmatism may be either of that kind known as far-sighted or near-sighted, or a mixture of both.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTER OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, and HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumline Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents.**

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

CELLULOID NEGATIVES.—Mr. George Eastman, Rochester, N. Y., has made an important invention in photography. He has succeeded in producing a strong and perfectly transparent support, of great flexibility and extreme thinness, which can be wound upon rollers, to be exposed, developed and printed like ordinary glass negatives. The transparent support is a modification of celluloid, specially prepared by a process invented by Mr. Eastman. The celluloid product is but four one-thousandths of an inch in thickness, and the gelatine film upon it is one two-thousandths of an inch in thickness. This extreme lightness enables a large quantity of photographic material to be carried in a very small space, and with no inconvenience on account of weight. Every operator can develop and print his own negatives, and refill his magazine with the exercise of only ordinary skill. This invention is a very important one, and will be appreciated by photographers.

MICA AS AN INSULATOR.—Comparisons between glass and mica show that even at high temperatures the latter is the better insulator.

CELLULAR CLOTH.—A new textile, which is likely to be of a very high sanitary value, as well as greatly conducive to comfort, has just been introduced under the name of cellular cloth. It is of netted or cellular structure; the texture is thick, but open, and the cloth is made of cotton, merino, silk or wool. The construction is based upon the theory of perfect ventilation, combined with due retention of the warmth of the body. Those articles which are the poorest conductors of heat best serve this purpose. Upon this physical fact rests the theory of the cellular cloth. A construction that shall retain heat in winter and exclude it in summer, and that shall at the same time permit free evaporation, is a model for garments.

BUSINESS NOTES.

HORFORD'S ACID PHOSPHATE.

MAKES DELICIOUS LEMONADE.

A teaspoonful added to a glass of hot or cold water, and sweetened to the taste, will be found refreshing and invigorating.

OUR NATIONAL ZOO.—The site for the Zoological Garden in Washington has been selected. It comprises about one hundred and fifty acres to the north-west of the city, about two miles from the White House, along the banks of Rock Creek, and is said to be in every way well adapted for its purpose. Before next winter the necessary arrangements will probably be so far advanced that the animals now housed in the grounds of the Smithsonian Institution can be removed to their new quarters.

Fine Table
Wines

From our Celebrated
Orleans
Vineyard.

Armand Humbert & Co.
Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

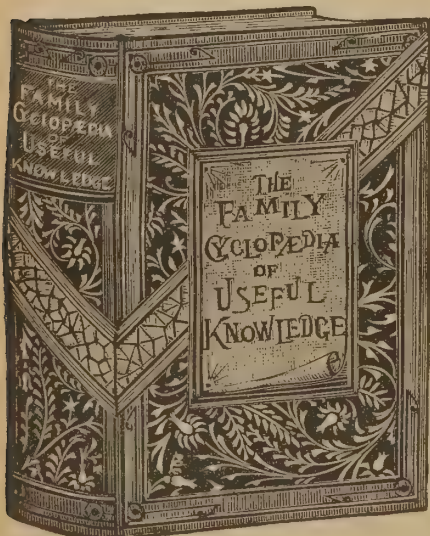
GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



Hotter the Weather Bigger the Proof.

As the weather grows warm, the sale of James Pyle's Pearline Washing Compound rapidly increases. This proves that many women recognize the fact that PEARLINE makes washing and cleaning very much easier than when done with the ordinary means. Proves also that summer clothing, being of delicate texture and color, will not stand the rough usage necessary when washed with soap, and establishes the fact that PEARLINE, in doing away with the rubbing, lessens the wear and tear and fills a very important place. Delightful for bathing in fresh or salt water. Its ingredients render it harmless to the most delicate skin. Especially during the hot weather it is to your advantage to use PEARLINE, and only humane to supply your servants with it, and thus lighten their labors; besides you insure much better results. Beware of imitations. JAMES PYLE, New York.

LATEST ACHIEVEMENT IN

Celluloid
Collars,



Cuffs
and
Bosoms.

GEO. CLEMENT & CO.

The Celluloid Company confidently assert that they have attained the highest improvement in their Waterproof Collars, Cuffs, and Bosoms, which has ever been reached in this line of waterproof goods. We have examined their latest improvements, and tested them by every means at our command. We are convinced that they have never been excelled, and we are ready to give them our heartiest indorsement. They are pliable, most durable of any goods on the market, and resemble linen more perfectly than any waterproof imitation. Some strangers who have little acquaintance with these goods are under the impression that celluloid is an explosive material. This is an entirely erroneous idea. We can hold celluloid upon the hottest argand burner, and it will melt, but never ignite. The linen interlining makes it much stronger than any other goods in this line. We shall be glad to have any and all of our former patrons try these goods and write us their opinion of the same.

A full assortment of Celluloid Collar Buttons at 5 cents each by mail, post paid; and Cuff Buttons from 25 cts., to \$1.00 per pair by mail. These buttons are durable and never tarnish the Collars and Cuffs.

CELLULOID COLLARS and CUFFS cost no more than linen—look better and wear longer. They never wilt from perspiration, are always white, clean and fresh; require no laundrying—are manufactured in all the leading styles for both Ladies and Gents, Girls and Boys. When soiled, simply wipe them off with soap and water. They save their cost in a week's wear. Try them.

Keep this for reference. CELLULOID COLLARS and CUFFS are as economical and desirable as represented. Can always obtain the same FREE OF POSTAGE, at the following prices:

Gents' Collars,	25 cts.	6 for.....	\$1 30—\$2 25 Doz.
" Cuffs,	50 "	6 ".....	2 75—4 75 "
Ladies' Collars,	15 "	6 ".....	85—1 50 "
" Cuffs,	30 "	6 ".....	1 70—3 00 "
Small Bosoms,	50 "		
Large "	75 "		

Remit by postal order, check, or stamps.



Be sure this trade mark appears on the all goods you purchase.
Address: GEO. CLEMENT & CO., 33 East 22d Street, New York City.

WE ALWAYS STOP THERE.

A very pleasant, convenient and popular hotel is the Sturtevant House, New York. Matthews & Pierson, Proprietors.—Express.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.



BLAIR'S PILLS

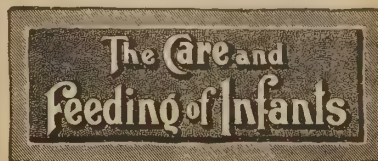
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE

Tabasco Pepper Sauce

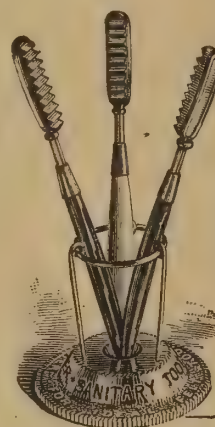
OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.



IF YOU ARE SICK and cannot raise your head, use the **IDEAL FELT Tooth Polisher**

to greatly add to your comfort.

If you are **WELL** and would enjoy life's fullest blessings, use it to increase your health and happiness. If you live in **Society** use it to improve your appearance. If you live in **Solitude** use it to preserve your teeth. If you are **Rich** it will make you richer. If you are **Poor** it will save you money.

WHATEVER YOUR AGE OR CONDITION YOU CANNOT AFFORD TO BE WITHOUT IT.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices. Also, Free-hand Drawing.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

A BOOK THAT EVERY LADY NEEDS.

THE LADIES' GUIDE TO FANCY WORK.

How to make the Home Beautiful at small cost is a subject now uppermost in the mind of every lady of good taste. This book is a complete practical instructor in every description of Ladies' Fancy Work, and the only first-class work of the kind ever published at a low price. It contains nearly **300 Illustrations**, and the instructions given are so plain and simple that by their aid even a child may make the many beautiful things which the book describes. It gives plain and practical instructions in Drawing, Oil Painting, and making Wax Flowers; likewise all kinds of Fancy Needle Work, Artistic Embroidery, Lace Work, Knitting, Tatting, Crochet and Net Work. It contains designs for Monograms, Initials, Cross Stitch Patterns, Knit Edgings, Embroidered Borders and Corners, Macramé Work, Applique Embroidery, Berlin Work, Java Canvas Work, Tricot and Braid, Antique Lace, Beaded Lace, Darned Net Work, Tiedies, Lambrequins, Ottomans, Counterpanes, Rugs, Carriage Robes, Brackets, Wall Pockets, Waste Paper Baskets, Work Boxes, Work Baskets, Work Bags, Pen Wipers, Hanging Baskets, Catchalls, Pin Cushions, Footstools, Handkerchief Boxes, Glove Boxes, Card Baskets, Sofa Pillows, Table Covers, Table Scarfs, Screens, Scrap Bags, Hand Bags, Table Mats, Toilet Mats, Lamp Mats, Lamp Shades, Pillow Shams, Pillow Sham Holders, Curtains, Toilet Stands, Picture Frames, Slipper Cases, Letter Cases, Toilet Sets, Clothes Brush Holders, Cigar Boxes, Hosiery, Socks, Fancy Purses, Slippers, Dressing Gowns, Music Portfolios, Knife Cases, Fans, Flower Baskets, Plant Stands, Flower Pot Covers, Shawls, Dress Trimmings, Window Shades, Feather Work, Spatter Work, Leaf Photographs, and many other things. It is a book that should be in every American household. With it as a guide you may make hundreds of beautiful things for the adornment of your home and for presents to your friends at the most trifling expense, and no employment for ladies is more fascinating and useful. The book will repay its small cost many times over in a very short time. Every lady will be delighted with it. It is a large book of 64 large 3-column pages, with handsome cover, is finely printed, and, as above stated, contains nearly 300 illustrations. It will be sent by mail, post-paid, upon receipt of price, only **Twenty-five Cents**.

INVALUABLE TO EVERY HOUSEWIFE!

THE MODERN COOK BOOK AND MEDICAL GUIDE.

This is practically two books in one—a perfect cook-book and a perfect medical book—and there is so much in it, and so much care and pains have been taken in its compilation, that we feel perfectly safe in asserting that the Cooking department is fully the equal, in quantity and quality of contents, of any low-priced cook-book published, and the same as to the medical department herein as compared with any low-priced medical work on the market. It is a complete encyclopedia of domestic information, and we fully believe that no lady, after having it in the house a short time, would willingly do without it for ten times its cost. The cooking recipes number 627, and include Breakfast Dishes, Soups, Meats and Poultry, Fish, Vegetables, Salads and Relishes, Bread and Rolls, Jellies and Preserves, Puddings and Pies, Fancy Dishes, Cakes, Confectionery, Ice Cream and Summer Drinks. The compilation of this department was superintended by a practical housekeeper, every recipe will be found reliable, and it has been pronounced one of the best, most complete, and practical cook-books published. The Medical Department will be found fully the equal of any doctor book published at one dollar or less. It tells you how to cure, by simple means, available in every home, Malaria, Pneumonia, Poisons (antidotes for), Nervousness, Measles, Rheumatism, Toothache, Wounds, Sprains and Bruises, Weak and Inflamed Eyes, Dust in the Eye, Sore Throat, Sore Head, Whooping Cough, Neuralgia, Earache, Worms, Warts, Burns and Scalds, Headache, Offensive Breath, Bleeding (to stop), Cancer, Consumption, Felons, Dyspepsia, Dysentery, Diphtheria, Diarrhoea, Croup, Corns, Liquor Appetite, Coughs and Colds, Cold in the Head, Catarrh, Scarlet Fever, Nose Bleed, Baldness, Smallpox, Sleeplessness, Ringworm, Chills, Costiveness, Cholera Morbus, Bright's Disease, Convulsions, Mumps, Superfluous Hair (to remove), Hysterics, Colic, Sciatica, Biliousness, Nettle Rash, Typhoid Fever, Ingrowing Toe Nails, Abscess, Stammering, Hemorrhage, Asthma, Hydrophobia, Scrofula, Bronchitis, Lockjaw, Erysipelas, Hoarseness, Chills and Fever, Dropsy, Bunions, Fits, Dandruff, Scurf, Quinsey, Heartburn, Sydes, Liver Complaint, Cramps, Corpulence, Sunstroke, Knock-knees, Indigestion, Jaundice, Gout, Prickly Heat, Ulcers, Salt Rheum, Fainting, Boils, Tobacco Habit, Gray Hair (to prevent), Cholera Infantum, Deafness, Stiff Neck, Piles, Choking, Freckles, Pimples, Sunburn, Chapped Hands, and many other ailments. It will save you many dollars annually in doctors' bills and patent medicines. Who can doubt that twenty-five cents invested in such a useful and valuable book as this would be the best and most profitable investment that could possibly be made of so small a sum? This MODERN COOK BOOK AND MEDICAL GUIDE is a large book of 128 pages, neatly bound in colored covers. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

AVOID LITIGATION! BE YOUR OWN LAWYER!

EVERYBODY'S LAW BOOK.

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights, and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic Law, by a prominent member of the New York bar, contains concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Affidavits, Agency, Agreements, Apprentices, Arbitration and Award, Assault and Battery, Assignments, Attachments, Banks, Bills of Exchange, Checks and Promissory Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardian and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warrant, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executors' and Administrators' Accounts, Interest Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value, and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. **EVERYBODY'S LAW BOOK** is a large volume of 128 pages, 12° o, with handsome cover. It will be sent by mail, post-paid, upon receipt of only **Twenty-five Cents**. Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

For School Exhibitions and Public and Private Entertainments.

The Complete Book of Recitations and Dialogues.

This book contains, so far as we know, the best and most complete collection of recitations ever published in a single volume. All the popular recitation books of the day have been consulted and the cream selected, and the result is a mammoth collection of recitations which cannot fail to answer every requirement. There are hundreds of them, and they embrace every kind and character of recitations, adapted to every need, humorous, dramatic and pathetic—from short juvenile pieces for the little boys and girls on Friday afternoons to pretentious dramatic works for the professional elocutionist. We have space to enumerate the titles of only a very few of them, as follows: "Ostler Joe," "Asleep at the Switch," "The Last Rym," "The Dead-end Journey," "The Engineer's Story," "Grippe Ben," "Two Loves and a Life," "The Mother-in-Law," "The Old Parson's Story," "The Taking Toll," "The Engineer," "The Tramp," "Tim's Daisies," "John Darryll's Dream," "Too Late," "The Book-keeper's Dream," "Saving Mother," "Curfew must not Ring To Night," "The Palmetto and the Pine," "The Polish Boy," "Drafted," "The Blacksmith's Story," "The Burning Prairie," "Guilty or Not Guilty," "The Foreclosure of the Mortgage," "The Clown's Baby," "Bill Mason's Ride," "How we tried to Whip the Teacher," "Driving Home the Cows," "Somebody's Mother," "When the Tide Goes Out," "The Old Farmer's Elegy," "Widder Spriggins' Daughter," "The Light-keeper's Daughter," "How the Parson Broke the Sabbath," "Which Shall it Be?" "Somebody's Darling," etc., etc. In addition to the Mammoth collection of Recitations contained in this book, it also contains a number of fine Dialogues, mostly humorous, among which are: "Marrying a Poetess," "What's in a Name?" "The Train to Mauro," "The Graduates," "The Female Astrologer," "Proposing by Proxy," "Story-Telling," "The Morning Call," etc. Those who have sent for books of this character and been disappointed in them, owing to the meagerness and inferiority of their contents, will be happily surprised in this book, for not only is the largest collection of Recitations and Dialogues ever sold at a low price, but great care has been taken in the selection of its contents, the aim being to include only the best. It is a splendid book, guaranteed to give satisfaction. **THE COMPLETE BOOK OF RECITATIONS AND DIALOGUES** is a large book of 64 large 3-column pages, with handsome colored cover. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF

THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the **AMERICAN ANALYST** for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the **AMERICAN ANALYST**. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppel's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. R. H. CRITTENDEN.

Professor of Physiologic Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Fermented.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Peppin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST,

210 West 42d St., New York City, N. Y.
Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS
ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS.

GORDON & DILWORTH
563 & 565
TABLE DELICACIES
GREENWICH ST.
NEW YORK

OLIVES, CAPERS, SALAD, MINCE MEAT, PLUM PUDDING

CHOICE & DESSERTS
OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

Pure  BEER,
LAGER BEER

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS

AND
PRIVATE FAMILIES

BY

Beadleston & Woerz
291 W. 10th St. New York.

Orders by Postal Card 
 promptly attended to.

LEA & PERRINS' SAUCE.



Imparts the most delicious taste and zest to

The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

A CURE

FOR

Sick and Nervous
HEADACHES.

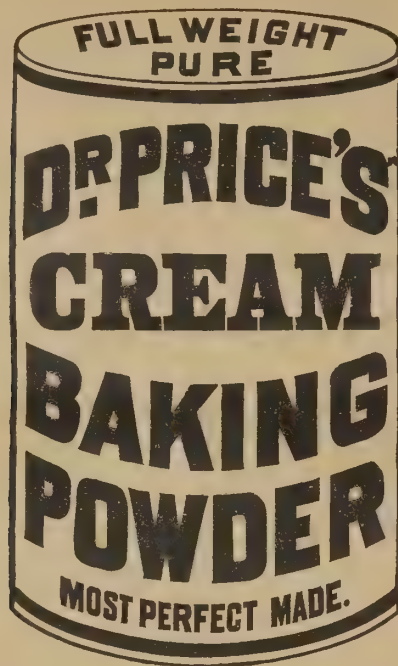


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

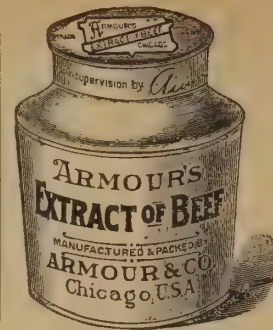
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

**ARMOUR'S
EXTRACT OF BEEF.**

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,

DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical

Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

LIQUID

BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, (inchona), Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 29.

NEW YORK, THURSDAY, JULY 18, 1889.

WHOLE No. 125.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Cooking and Ventilation.....	339
Domestic Dietetics.....	340
Editorials.....	337
Apollinaris and Imitations; Contagion on the Wing; Lead, Silver and Politics; The Paris Exposition; The Next Step; Ignorance and Credulity.	
Encalyptus, The.....	339
Fruits and Vegetables.....	338
Kelgum.....	340
Mumm Squelched.....	340
Nerve Rest.....	338
Railway Spine.....	339

APOLLINARIS AND IMITATIONS.

The representatives in this country of the owners of the so-called Apollinaris Spring have lately invoked the aid of the courts to protect them from numerous parties who have bottled and offered for sale under very similar labels other mineral waters than Apollinaris. We have no sympathy with imitators of any kind of goods, nor with any one who seeks to reap the benefit of other people's enterprise or exertion, by foisting upon the public other than the genuine goods. We do not believe that the great mass of the public will knowingly purchase such imitations, yet we here have an instance of the public openly purchasing proven imitations of a well-known mineral water. There must be a cause for this. It is an anomaly worthy of investigation. One solution which suggests itself is that goods which are positively known to be pure, good and just as represented cannot be successfully imitated and sold to any appreciable extent. The public have confidence in such goods, and will always prefer them. They will positively insist upon having the genuine article, and are

willing to pay any reasonable price to obtain it. We believe this has not been the case with Apollinaris water. The public has heard repeatedly of investigations before the Treasury Department, wherein, by sworn testimony, it was clearly shown that the Apollinaris water as obtained from the spring was one thing and Apollinaris water as shipped to this country was quite a different thing. It has been repeatedly stated before various medical and pharmaceutical societies, and so far as we know without any contradiction, that Apollinaris water is more or less prepared for this market. Under these circumstances, it is not at all surprising that the general public takes very little interest in the results of this legal fight, and, only caring to obtain a pure carbonated water, is just as ready to buy one kind as another. This is a lesson to all who offer for sale any article demanding public confidence. They must maintain the quality, give undeniable proof of genuineness and purity, and be sure to deserve confidence.

CONTAGION ON THE WING.

Another domestic animal, the fly, is coming in for his share of incrimination for spreading infectious diseases. It has long been known that, if not the house-fly, at least some kinds which are near relations of his, have sometimes been guilty of causing malignant pustule by carrying the contagion of anthrax from diseased animals or animal substances to man. During the past year Dr. Alessi has been experimenting with flies to determine their liability to spread the infection of tuberculosis. The bacillus of this disease was found in the intestines of flies which had feasted on tuberculous sputa, and the bacillus being used for inoculating rabbits, the animals became tuberculous. Thus it is found that the digestive tract of the fly is harmless to the germ. Spillmann and Haushalter have also made similar researches, with the same results; and lately, according to the *Annals d'Hygiene Publique*, a Mr. Howe, who has studied the subject in the Nile country, has found that the granular ophthalmia of that region can be spread by means of house-flies passing from the eyes of those who are affected with the disease to other persons.

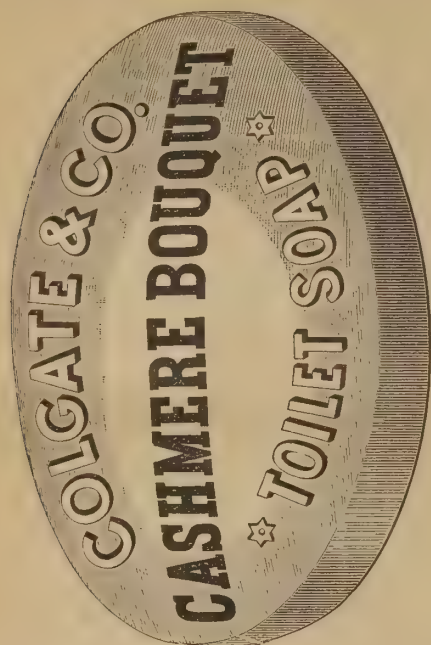
LEAD, SILVER AND POLITICS.

The first State election in Montana this Fall may possibly turn upon a curious point that has only recently manifested itself. In that new State lead mining is an industry of considerable importance, employing a large number of men and wielding more than enough influence to change the result of a State election. The lead miners have a grievance and have been to Washington to air it, at the same time threatening dire political vengeance if it is not attended to. The fact is disclosed that Mexican lead, which, under the tariff, is subject to a duty of 1½ cents per pound, is being admitted duty free under the guise of silver ore. The question

turns upon a point of classification. Is it silver or lead ore—which? In the former case it is free of duty, whilst in the latter it is amenable to tariff rates. The rule of construction in regard to ores, hitherto adopted by the department, is that the metal which has the preponderance in value shall determine the whole. That is to say, if there is in a given quantity of ore \$51 worth of silver and \$49 worth of lead, it is all declared to be silver ore and consequently free of duty. Silver being by far the most valuable in proportion to bulk, there need not be very much of it present to give it the preponderance in value. The owners of lead mines in Mexico have not been slow to see how the thing could be worked and are prospering by means of what is called "a smuggling device." Thirty millions of capital are invested in combined lead and silver mining in the single territory of Utah, requiring the labor of seven thousand men and yielding an output of over \$8,000,000 annually. In 1884 Mexican lead ore began to be imported at the average rate during that year at 5 tons daily. In 1888 the average daily importation had reached 225 tons, every pound of which has come in free of duty. Against this the Montana miners protest and ask to have the whole classed as lead ore. As that seems to be the proper classification for it, the change will probably be made.

THE PARIS EXPOSITION.

In the light of the hysterical praise that the majority of American correspondents in Paris are bestowing on the Exposition, the sober comment of *Science* is both refreshing and impressive. Our contemporary says: People may walk until they are fatigued through the almost endless buildings on the Champ de Mars, and yet fail to find any great and striking object by which they would especially remember the exhibition of 1889. The place is filled with evidences of untiring industry and skill on every side, but there is a strange absence of great novelties. We believe, however, that the exhibition will be famous for four distinctive features—in the first place, for its buildings, especially the Eiffel Tower and the Machinery Hall; in the second place, for its Colonial Exhibition, which for the first time brings vividly to the appreciation of Frenchmen that they are masters of lands beyond the sea; third, it will be remembered for its great collection of war material, the most absorbing subject nowadays, unfortunately, to governments, if not to individuals; and, fourth, it will be remembered, and with good cause by many, for the extraordinary manner in which South American countries are represented. Several of those nationalities are beginning to put themselves forward as appreciable factors in the politics of the world, and, what is of more interest to the manufacturer, they constitute the richest and largest customers in European and North American markets. Especially is this the case with regard to agricultural machinery of all kinds and those exhibitors are fortunate who are well represented in this respect.



THE NEXT STEP.

The beef conspirators having been foiled in their attempt to monopolize the fresh-beef business of this country by securing the passage of the so-called inspection bills by the several State legislatures are now about to imitate still further the gentlemen of the dark lantern and jimmy by trying another means of ingress into their honest neighbors' business. This time they intend to burglarize the various city governments. Their arguments make amusing reading for hot weather, they are so delightfully cool in their brazen impudence and ignorant assertion. The State legislatures are, they declare, too large and unwieldy bodies for them to handle and can only be reached by large "boodle," so they propose to make their attacks on the city aldermen. "These officials" they say, "are our neighbors, they cannot be bribed by our opponents, we can bulldoze them with threats of our influence at the next election, let us commence right here at home on our New York Aldermen." It remains to be seen whether our local Solons can be induced to surrender in this manner to the meat monopolists, or whether they will prefer to keep the city beef market supplied as now, with the best article at the lowest price.

IGNORANCE AND CREDULITY.

The era of credulity and humbug is still in full activity, and the sillier the doctrine set forth the more earnest are its disciples in maintaining it. The fact that such an impracticable speculation as that profanely designated "christian science" can find believers in this nineteenth century simply shows how fondly weak humanity cherishes theories that save it trouble, and that minister to its love of the marvelous. The fascination for holding odd notions seems to be a weakness of the human mind which is hard to eradicate. Such beliefs have been pretty well driven out of chemistry, physics and other fields of science which can be searchingly investigated, and they remain only in psychology and medicine, dealing with the living human organism, which cannot be freely experimented upon. Human credulity has been greatly lessened by the march of scientific enlightenment, and what remains has taken on a new form. In earlier times it delighted in the supernatural, now it revels in its own false ideas of the natural. Then it trusted the revelations of self-appointed prophets, now it pins its faith to the slipshod

reasoning of sham investigators. Science has done such wonderful things of late that a certain class of people, including many of excellent judgment in other fields, has come to believe any marvels put forth under its name. Hence we have a modern class of mystery-mongers which will flourish until the spread of scientific culture has diffused the power of discriminating between science and base imitations of science.

FRUITS AND VEGETABLES.

SOME SEASONABLE COMMENTS ON BOTANICAL FOODS.

Among the infinite variety of forms into which the different parts and organs of plants are developed, we find some of our choicest and most valuable food products. The leaves of many plants, like the lettuce, chiccory, dandelion, parsley, etc., are largely consumed as salad or cooked as "greens." In celery, we do not eat the leaf, but an abnormally thickened petiole, or leaf-stalk, and asparagus heads are the young shoots gathered before they develop into branches. It is highly necessary for the preservation of a plant that its seeds should be spread widely over the ground, and we find that the fully developed seeds of many plants are surrounded by a pericarp of substances attractive and palatable to animals. In the apple and quince, the calyx leaves and receptacle become altered and fleshy, to form the edible part of the fruit. The strawberry is not a true berry at all, for the fruit is not a ripened pistil, but an enlarged and fleshy receptacle, or extremity of the flower-stalk, thickly dotted over with the minute ripened ovaries containing the seed, and usually mistaken for the seeds themselves. The fig, also, consists of such an enlarged receptacle, but it has been, as it were, turned inside out, and the seed-like ovaries are on the inside. A ripened rose-hip shows the same structure in a lesser degree. Mulberries and pineapples consist of the ripened products of many flowers, placed on a common receptacle, which is itself a part of the edible mass. The Gaultheria, or checkerberry, is not a berry, but the thickened calyx of the flower, which encloses a dry pod containing the seed. The true berry is a permanently closed, ripened, fleshy pistil, inclosing the seeds. Familiar examples are the grape, currant, and cranberry, as well as the orange, pumpkin, and gourd. The peach plum, etc., are known as *drupes*, or stone-fruits, in which the inner part of the pericarp, or ripened pistil, is hard and bone-like, enclosing the seed, while outside of this is the fleshy edible layer. The raspberry and blackberry are not true berries, but are composed of a number of little drupes, or drupelets, placed together upon an elongated receptacle. In the raspberry, the drupelets are readily detached from the receptacle, but, in the blackberry, the whole coheres strongly together, and the receptacle is eaten with the rest of the fruit. A nut is a stone-fruit, or drupe, in which the fleshy part is absent. The true seed is inclosed within the shell, forming the edible part. There are other plants in which the ripened pistil opens at maturity, freeing the seeds within. The pea and bean are familiar examples. The undeveloped seeds of the former delight our appetite as green peas, while the unripened pistil and seeds of the bean are boiled together, and appear as "string beans." The modifications of roots also furnish many valuable vegetables. Most of these, however, are not true roots, but subterranean stems, as is shown by the presence of buds, or scars where buds have previously formed and dropped off. The so-called roots of ginger and sweet-flag are merely thickened portions of a subterranean stem, called the *rhizoma*, or root-stock. *Tubers*, like the potato and Jerusalem artichoke (which, by the way, is not an artichoke, and did not originate in Jerusalem), are the enlarged buds of these subterranean branches, in which a large proportion of starch has been deposited. Examples of a similar tendency to form tubers have been observed in the stems of the

potato-plant above the ground. A bulb, like the onion, is formed by the enlargement of the leaves of an underground stem, as shown by the scales or layers of which it is composed. Solid bulbs, or corms, are not true bulbs, but an enlarged underground stem. In the turnip, beet, and radish, the upper part of the root itself shares in the enlargement, so that these vegetables are of a compound nature. The object of these underground enlargements is, evidently, to lay up a store of nourishment for the plant during the succeeding season. The cauliflower furnishes an example of the use of the undeveloped flowers of a plant as an article of food, and in the true artichoke the thick, fleshy plant-scales are utilized in the same manner. We have thus seen that there is hardly any portion of a plant which may not be so modified as to become food for man. We have also seen that the strawberry, raspberry, and blackberry are not really berries, but that the squash and pumpkin are; while the potato, onion, and flag-root are not true roots. These are only a few of the interesting lessons taught by the science of botany—a science not only extremely fascinating in itself, but one which requires no expensive apparatus for its study, and for which every field, forest and roadside freely furnishes a profuse supply of material for experiment and study. —*Popular Science News.*

NERVE REST.

THE IMPORTANCE OF OCCASIONAL ABSOLUTE CESSATION OF WORK.

As there are so many degrees of nervous exhaustion, so are there many methods of restoration. What would be pleasant exercise to one might prove laborious exertion to another, and what would be soothing to one might be irritating to another. In all cases, however, complete nerve rest implies the maintenance of agreeable sensation and the avoidance of nervous agitation. It may not be possible to obtain such absolute rest as is here indicated, but the aim of treatment is to secure as near an approach to it as can be attained by legitimate means. No means is used which might injure the general health. The fact that women are more liable than men to the severer forms of nervous exhaustion is one reason why the cases quoted are chiefly those of women. Another reason is that in men it is rarely possible to study this stage of the disease uncomplicated by the effects of alcoholic indulgence. Most men who find themselves becoming victims of nervousness endeavor to escape the worries of life by taking refuge in drink, so that they usually bring upon themselves other diseases of alcoholic origin. In women this was not formerly the habit, but there is reason to believe that the late increase of inebriety among them is largely due to the spread of nervous exhaustion. On the other hand, there are many cases in both sexes where alcoholic indulgence has undoubtedly been the chief cause of the ailment. Although the most severe forms of this disease have alone been discussed, it must not be supposed that milder forms do not also require special nerve rest. This cannot be secured without more or less change being made in the ordinary mode of life. Nervous agitation is the chief cause of nervous exhaustion. It is almost impossible even for a healthy man to avoid a certain amount of agitation in connection with his affairs, while for the nervous man it is absolutely impossible. For the latter, therefore, a frequent holiday is essential. The way of spending such a holiday is a matter of urgent importance. Many nervous sufferers return home, worse than when they left. They climb mountains in Switzerland when they ought to be loitering on the seashore or lounging on the deck of an ocean steamer. They rise early "to make the best of to-day," when they had better lie several hours longer to fix the benefits of yesterday. Like the unskilled rider, who dismounts for relief,

they are frequently driven to bed to recover from their holiday exertions. The amount of exercise must be regulated by its effect on head or spine. Mere muscular fatigue may be overcome by regular walking, but nervous fatigue must be entirely avoided. If the patient cannot take sufficient exercise to sustain his appetite and digestion, he had better undergo an hour's massage daily. And when he has once gained the power of walking from five to ten miles a day without fatigue of head or spine, he ought, by constant practice, to endeavor to retain it. There is no better preventive of nervous exhaustion than regular, unhurried, muscular exercise. If we could moderate our hurry, lessen our worry and increase our open-air exercise, a large portion of nervous diseases would be abolished. For those who cannot get a sufficient holiday, the best substitute is an occasional day in bed. Many whose nerves are constantly strained in their daily vocation have discovered this for themselves. A Spanish merchant in Barcelona told his medical man that he always went to bed for two or three days whenever he could be spared from his business, and he laughed at those who spent their holidays on toilsome mountains. One of the hardest-worked women in England, who has for many years conducted a large wholesale business, retains excellent nerves at an advanced age, owing, it is believed, to her habit of taking one day a week in bed. If we cannot avoid frequent agitation, we ought, if possible, to give the nervous system time to recover itself between the shocks. Even an hour's seclusion after a good lunch will deprive a hurried, anxious day of much of its injury. The nerves can often be overcome by stratagem when they refuse to be controlled by strength of will.

COOKING AND VENTILATION.

SOME CONSIDERATIONS REGARDING GAS AND OIL STOVES.

It is a well-known fact that an individual confined in a small, air-tight chamber would soon die, poisoned by his own breath. The reason is that the oxygen, which is the only stimulating and vitalizing constituent of pure air, and without which life cannot continue, is largely exhausted by respiration, and its place taken by another gas, the carbonic acid gas, which is so destructive of life that no animal can exist in it. Man, and all animals, take in, by breathing, the oxygen, which is a part of pure air, and it is absorbed into the blood through the lungs, and is distributed to all parts of the body by the circulation of the blood. But oxygen, while it gives vitality and force to the body, also, while accomplishing that purpose helps make carbonic acid gas, the destroyer of life. The oxygen meets everywhere the worn-out material of the body and burns it. This worn-out material is a kind of fuel, which the oxygen consumes, or, in other words, decomposes, and combines with one of the constituents of the fuel (carbon), and the product is watery vapor and carbonic acid gas (carbon and oxygen united). This gas is thrown out of the body while breathing, and the oxygen taken in; and thus, if there is a deficiency of pure air, the poisoned air accumulates and the individual suffers from the deleterious effects of the carbonic acid gas to a greater or less degree, in proportion to the confinement of the air in which he is placed. It is known that there is no surer mode of destroying life than that by burning charcoal in a closed room. Charcoal is nearly pure carbon. By starting the process of combustion or burning, the combination of the charcoal (carbon) and the oxygen (acid maker) of the air, goes on with the production of volumes of a somewhat heavy, tasteless and invisible (carbonic acid) gas, which will destroy life when it forms a tenth part or much less of the breathing medium. The basis of illuminating gas is carbon, and so also of all of the oils. The product of burning gas or burning oil, or fluid derived from oil, is

nearly the same as in the process of breathing, or in the combustion of charcoal; that is, almost wholly watery vapor and the poisonous carbonic acid gas. It will be understood then wherein the danger lies in the use of gas stoves and oil stoves for cooking or heating. These stoves are a great convenience and comfort. They are also economical. For the purpose of moderate cooking they are to be recommended; but with a proviso. That proviso is, that there must be complete ventilation, unobstructed ingress and egress of atmospheric air. The combustion of illuminating gas, kerosene oil or any of its products, or any other oils, results in the production of the deadly carbonic acid gas, and the greater the quantity consumed the greater the danger, other circumstances being equal, where attention is not paid to ventilation. When using either, therefore, have the windows open or the doors ajar. They are then as safe as any stove for cooking. For warming rooms, it is obvious that neither gas nor oil stoves can be recommended. With complete ventilation, which is an absolute necessity to insure safety, the requisite warmth would scarcely be secured with the desired comfort and economy. Let no one be deceived by the assurance of any dealers that in their stoves the smoke is all consumed, or that all hurtful gases are consumed. They may assert that the absence of smell is the proof of the consumption of all harmful products, but such assertions can have no foundation in fact.—*Monthly Bulletin.*

THE EUCALYPTUS.

EXPERIMENTS CONCERNING ITS ANTISEPTIC QUALITIES.

Speaking of the growth of the industry of extracting the various alkaloids and resins from the eucalyptus tree, a recent number of the *London Globe* says: Elaborate experiments have been made in Rome by Senator Count Luigi Torrelli, and they deserve careful attention at the hands of wholesale manufacturing druggists. A number of tin pannikins were filled with pure spring water and various leaves, such as oak, orange, lemon and grass, immersed in them; also eucalyptus leaves and bark. Gradually, but at various intervals, the leaves and water showed signs of putrescence and had to be thrown away. The oak leaves preserve the water for some time, but the water in the pannikins with the eucalyptus leaves and bark remained perfectly palatable after the lapse of more than four months. The Count also placed some meat in water with leaves of the eucalyptus globulus, and in another pan a piece of veal in plain water. After seventy-four hours it was found that where the veal had been merely soaked in water the meat had become putrid and decomposed the water. The water in the pan treated with eucalyptus leaves was colored, and had a slight smell and taste of leaves, but was quite good, and the meat was in excellent preservation, and when cooked was eaten with much relish. The Count then wrapped some veal with a slight taint in a profusion of leaves of the eucalyptus globulus. At the end of three or four hours he cooked the veal in the ordinary way, and it was pronounced excellent and tender. Taking some mountain mutton with a strong and disagreeable muttony smell and flavor, he wrapped it in eucalyptus leaves for three hours. The mutton was cooked, and the objectionable taste had disappeared, though the meat had acquired slight foreign flavor from the leaves. This aroma of eucalyptus, however, was liked by all those who tasted it. We would now suggest that these marked antiseptic qualities seem to point to several ways in which purified eucalyptus extracts might be used with effect.

NOT FULL YET.—There is plenty of room on earth. Allowing 5 acres for each inhabitant, Europe has room for 115,000,000 more people, Africa for 1,336,000,000, Asia for 1,402,000,000, Oceania for 515,000,000 and America for 2,000,000,000.

RAILWAY SPINE.

A NEWLY-DISCOVERED CAUSE OF NERVOUS DISORDER.

One of the most curious developments of modern medical study, and one with an extremely important practical bearing, relates to a form of disorder following railway accidents, which is known by the name of "railway spine." To those unfamiliar with the manifestations of this disorder, it would appear almost incredible that it should play so serious a role in the lives of persons who have received injuries which often seem far from severe, and be so often the cause of protracted medico-legal contests. But one who has studied its phases, under circumstances favorable to a just discrimination between actual morbid phenomena and the simulations which are sometimes practised in order to wring money from a rich corporation, will not wonder that it is regarded as a very grave matter by medical experts, and that they warmly resent the common impression that it is frequently only a form of malingering. There can be no doubt that instances occur in which an avaricious patient and a willing or pliable physician unite to over-estimate the damage done by a railway accident, but these cases are far more rare than is often supposed; and there is, on the whole, more danger of error of being too skeptical of the real existence of a condition for which no better name has yet been suggested than "railway spine," than there is in recognizing it and endeavoring to estimate it justly. The cases which give most trouble are those in which there are few or no evidences of gross lesions in the spinal cord or its surrounding hard and soft parts, but in which there are manifestations of nervous disorder, following an accident and attributed to it, which may be deliberately affected from motives of cupidity. To discriminate between sufferers and pretenders, under these circumstances, is by no means an easy or a pleasant task for most medical men. But much help may be gained for the task by a study of what has been written by men of experience in such cases. A valuable paper on the subject, by Dr. Dercum, of Philadelphia, is in the department of the *Reporter* for pamphlet notices, No 296. In this pamphlet Dr. Dercum describes the classes of injury which are likely to follow blows or falls upon the region of the spinal column, and gives a very instructive review of the principles which should guide a medical witness in deciding upon the actual condition of a person who claims damages for such injuries. We cannot repeat, or even summarize, his conclusions, but would call attention to one point in particular in regard to "railway spine," and this is, that there are not a few cases in which, with no gross lesions whatever, a person who has never been nervous, or timid, or hypochondriacal, develops all these characteristics after a railway injury. In women, as Dr. Dercum points out, this alteration of character sometimes takes the form of hysteria, while in the case of men precisely the same condition sometimes follows participation in a railway accident. To give the condition the name of hysteria may be—except for the etymological error of the term—scientifically correct; but to permit this to blind one to the realness of the misfortune would be a grave injustice to the subject of it. Here is the most delicate question which can arise in the mind of a medical witness; and we believe that it is not untimely to say this word, to fortify any of our readers who may find it hard to meet the objections of counsel for railroad companies, who often honestly think medical men too prone to testify to the existence of evils which are not actually present. The medical witness ought not to ignore the possibility that a claimant for damages may be assuming or exaggerating the appearances of real nervous disorders; but no more ought he to permit himself to be deterred from doing justice to the victim of a railway accident, because there is a natural prejudice against charging whatever follows such an accident to it.—*Med. and Surg. Reporter.*

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

July.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, egg-plant, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb, corn, beets.

FRUITS.—Cherries, strawberries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple.

PRACTICAL RECIPES.

CALF'S HEAD, SOUSED.—Scald and bone a calf's head. Soak it for seven or eight hours, changing the water twice, then dry it. Season it with salt and finely minced sage and onions. Roll it up, bind it very tight, and boil it in salt and water, to which a pint of white wine may be added. When done put it with the liquor in a deep dish. Serve it whole or in slices, with oil, vinegar, pepper, and lemon.

LAMB CHOPS.—Cut a loin or neck into chops, dip them in beaten egg and bread-crumbs, mixed with minced parsley and lemon peel, and seasoned with pepper and salt. Fry them a light brown, in good dripping. Make a sauce with the trimmings, thicken it with butter and flour; add a little lemon-juice and mushroom ketchup. Garnish with fried parsley. They may be served with or without the gravy.

ICE-CREAM CAKE.—Make a good sponge cake; bake it in layers of one-half an inch thick; let them get quite cold. Beat a pint of thick, sweet cream, till it is very stiff; make very sweet and flavor with vanilla; blanch and chop a pound of almonds, stir them lightly into the cream, and put this very thick between the layers.

JENNY LIND TEA CAKE.—Take four cups of flour, two-thirds of a cup of sugar, one egg, one tablespoonful of butter and two heaping teaspoonfuls of Horsford's Baking Powder; mix with sweet milk the usual thickness for cake. To be eaten hot with butter.

SAUCE PIQUANTE.—Pound together, in a mortar, a tablespoonful of capers and a tablespoonful of parsley; then a tablespoonful of freshly made mustard, and the yolks of three hard-boiled eggs; pound these until they are properly mixed; wash, bone and force through a sieve half a dozen anchovies; to this add a tablespoonful of vinegar, two of olive oil, a shallot chopped very fine; add these to the former ingredients, and when about to be used stir them all into half a pint of drawn butter or strong beef gravy.

CHOCOLATE ICE CREAM.—Take two quarts of cream, one pound of sugar, one-half pound of chocolate grated, one vanilla bean, and two fresh eggs well beaten; mix all the ingredients together, stir all well, place on the fire and bring it to the boiling point; then strain, cool, and freeze.

CHERRY ICE CREAM.—Take two quarts of cream, or one pint of cream and one of soft custard, one pound of sugar, and a pound and a half of ripe cherries, (stoned and mashed), or one pint of cherry juice. Freeze the sweetened cream, and when well frozen add and work in the cherry juice or pulp with a long-handled spoon.

ALDEN'S MANIFOLD CYCLOPEDIA.

Volume XIV. takes this important work from Excluded to Floyd. In general make-up it resembles the preceding numbers of the series. We also notice the same skill in the selection and treatment of topics and the same careful editing which has characterized the work from the beginning. In fact, as it progresses its great merits become still more conspicuous. The combination of a dictionary and a cyclopedia is an excellent idea and is being well carried out. The judicious use of illustrations is a helpful feature, and the treatment of subjects is clear, direct, and practical. Thus, while it is of great value to professional men, it is also a thoroughly serviceable and helpful work for the masses of the people. Among the subjects treated in this volume are Excommunicate; Eye, 20 pages; Factory Acts; Faith and Faith Cure; Fallacy; Falling Bodies; Faraday, 2 pages; Fashion; Federal Government; Fertilizers; Festivals, 6 pages; Firearms; Fishery Treaties; Fishes; Flax; Flint Implements; Florida; Flowers. Covering the various fields of agriculture, manufacture, commerce, science, art invention, history, religion, law, biography, and politics, the work is truly *manifold* in character as well as name.

HOW TO KEEP COOL.

It is certainly tiresome to be met at every step and have the same question, "Is it hot enough for you?" propounded. Philosophically considered, the object of the questioner is to obtain the poor consolation of a corroboration of the old saying that misery loves company. Much better would it be to be told how best to keep cool. There are various ways generously provided by nature by which the human body can be kept cool, even during the most torrid and long-continued spell; and we ourselves can do much, not only to prevent our bodies from becoming overheated, but, when heated by any necessary exertion, to cause it quickly and safely to resume its normal temperature. The means provided by nature are through the lungs, the skin, and the kidneys. The lungs, by constantly supplying fresh oxygen to the blood, keep the circulation in a normal condition and thus prevent an increase of temperature by unequal circulation or clogging of the venous system. The skin, by performing its normal function of perspiration and consequent evaporation, tends to cool the surface of the body, directly by this evaporation and indirectly by carrying off, with the perspiration, the effete matter as fast as it is brought to the surface. The kidneys perform very similar offices to the skin and lungs. Laying aside for a moment nature's provision, let us look at what man can do for himself to assist nature in keeping his body cool. He can do as much, if not more, by omission as by commission. All unnecessary exercise of body as well as excitement of mind should be avoided. Overindulgence in eating and especially in drinking, by overloading the stomach and overworking the digestive organs, produce an unusual and unnecessary flow of the circulation to the effected organs and thus increase the temperature. Spirituous drinks of any kind have a tendency always to increase the surface circulation. Our clothing also has a direct influence upon our bodily temperature. It is not always the kind of material which seems the thinnest and lightest which is coolest. The fabric which will allow moisture to evaporate quickly is the best. As cottons absorb and hold moisture, and, therefore, keep a moist and clinging substance on the body, while woollens allow evaporation and keep the surface next the skin dry, the latter are to be preferred. Bathing the skin, to keep the pores open, and thus enable it to perform its functions, and also to relieve the lungs and kidneys from having its work to perform, is a very necessary help to keeping cool. Above all, it is well to remember that none of these organs will properly perform their respective functions if clogged up or obstructed, and they are all very apt to become so, even in the healthiest subject. The best and safest way to prevent this clogging and to remedy it when

it has taken place is by the continued and judicious use of a carefully prepared alterative, having cleansing and at the same time tonic properties, such as no other preparation possesses to as high a degree as Ayer's Extract of Sarsaparilla, which is scientifically compounded of the best ingredients, after an approved formula, by the old and well-known firm of Dr. J. C. Ayer & Co., of Lowell, Mass. This preparation positively maintains the system in such perfect order that, with ordinary care as to the other rules, you may be enabled to keep cool, even in the hottest season.

KELGUM.

A PROPOSED SUBSTITUTE FOR INDIA-RUBBER.

A substitute for rubber to be known as "kelgum" has been invented by Henry Kellogg, of New Haven. It is produced from vegetable oils, which are treated so as to remove all the unctuous matter, leaving a residuum of a gummy character, very much resembling india-rubber gum, though not possessing so much of the elastic quality. As kelgum is a product of oil it is unaffected by oil. As it does not retain any unctuous matters it possesses an advantage over rubber. Neither is it affected chemically or changed by the action of heat or light. It can be vulcanized exactly as rubber is, except that it is not necessary to use sulphur. Another peculiarity of the substance is that it increases in weight instead of diminishing, as is the case with rubber. It is more durable than rubber under many conditions, as when exposed to light and heat, and also in many cases where rubber is injured by heat kelgum is not. The new substance is especially applicable to beltings, both for all kinds of machinery as well as for tapes for printing presses. It is available for sail covers or bonnets, awnings, tents, mail pouches, carriage coverings and linings, canvas shoes, trunk covers, bags and reticules, book covers and binding, packing cloths and papers, cart sheeting, tarpaulin, shoe linings, telegraph and telephone wires and cables, under ground or in water, and insulators, roof covering, shoe soles, and numerous other purposes for which rubber is now used. A joint stock company has been organized in New Haven for the manufacture of kelgum.

Reprinted by request, from the AMERICAN ANALYST,
July 11, 1889.

MUMM SQUELCHED.

AN OPEN LETTER FROM MR. ARPAD HARASZTHY.

At a regular meeting of the Grape Growers and Wine Makers' Association of California, held in San Francisco June 18th, Mr. Arpad Haraszthy, in speaking of champagnes, referred to the interview with G. H. Mumm, recently published, in which Mr. Mumm stated that no good champagnes could be made in this country because our soil does not possess the necessary factors, the principal one of which was said by Mr. Mumm to be chalk. Mr. Haraszthy dissected Mr. Mumm's statements, and showed conclusively that Mr. Mumm, in the words of the speaker, did not know what he was talking about. So gross were the mis-statements of Mr. Mumm, Mr. Haraszthy said, he considered him merely a figurehead who left all his business to peasants and cellar-men. In the interview Mumm stated that in California champagne and Madeira were grown in the same vineyard on the same hillside. "Whoever told Mumm that filled up him to the crop," said the speaker. Mr. Haraszthy said he felt called upon, not only in his own interests, but in those of all the wine-makers he dealt with, to defend as far as he could the possibilities and the continued possibilities of champagne-making in California. Mr. Mumm also claimed that the American production did not possess sufficient effervescence by reason of the

lack of soil containing chalk. "Now," said Mr. Haraszthy, with a smile, "I would just like to have a contract with Mr. Mumm, by which he would pay for all the bottles that explode daily in my establishment through effervescence." Another statement of Mr. Mumm needs correction. He says that our wines are not old enough. "The older the vine, the better the wine," says he. "Now that is ridiculous, and I defy Mumm or anybody else to show me a bearing vine twenty years old. He makes other equally absurd statements that are not worth referring to. The whole amount of the thing is this: Mr. Mumm don't know anything about champagne."

Mr. Haraszthy concluded his remarks by reading to the Association, the following open letter which he has addressed to Mr. Mumm, in regard to his alleged allegations regarding California champagnes.

OPEN LETTER TO MR. G. H. VON MUMM.

Sir: Referring to a statement credited to you by the Eastern press that it is impossible to make champagne in California, I beg to ask you a few questions, to ascertain if possible, where your disinterested opinion ends, and where the desire to advance the interests of your firm begins: And as you have, without provocation, deliberately gone out of your way to injure the champagne interest of our State, I take the liberty of giving a *point* to my questions. Do you not know that climate exercises greater influence on the character of wine, than soil itself? Do you not know that while parts of California are covered with snow half the year, others have a perennial spring the year around, and still other parts vary between these extremes? Do you not know that we have whole counties lying on carbonate of lime formations, covered with light clay, mingled with silica and oxide of iron, and that this character of soil is practically the same as that existing in the champagne district. Do you really not know that the effervescence of champagne is created solely by the fermentation of sugar, and not by the character of the soil? If you knew this, as you should, then what motive induced you to say to the contrary? Have you ever studied the characteristic differences of any one of our three hundred grape varieties, in different parts of our State? If not, how can you know of our possibilities? Have you ever made a comparison of the wines of all, or any, of our different wine districts? If not how can you presume to judge of their future? Now, is it not a fact that you have never set your foot on our soil, and therefore you really know nothing whatever of the matter in question? Is it not a fact that while the champagne district produces a limited quantity of fine wine, that other parts produce large quantities of inferior, thin, acid, flavorless wines and that you yourself have admitted that these all go into the blends of the

various champagne firms? Is it not a fact that low, cheap grade wines from other parts of France are also very largely used in those covers or blends? And is it not also a fact that these wines, at the time of shipment are sweetened with syrups, artificially flavored with materials not coming from the grape nor grown on your much vaunted chalky soil? Is it not also a fact that the claim of superiority of most French champagne is owing more to the cleverness of artificially flavoring the syrups, than to your grapes, your climate or your talk? If this is not so, will you explain how certain brands take so strongly the green tea, pineapple, pear, spitzberg apple, and other flavors not natural to any grape, and never found in any pure champagne wine, until *after the syrup has been added*. In other words tell us plainly whether or not it is the flavoring of the syrup in French champagne artificially, that gives the high quality you desire our people to believe comes solely from your chalky soils? Very respectfully,

ARPAD HARASZTHY.

THE INQUISITIVE SEX.—The appointment of women on school boards does not meet with approval in all quarters. A janitor in one of the public schools thus relates his grievances: "Here I have been janitor of this school for fifteen years, and not a soul has ever been in the basement but myself, and now this woman comes to inspect the school, and the first thing she does is to ask to see the basement. And that basement," he added, plaintively, "wasn't in a fit condition for any one to see."

PRINTERS' INK.

A JOURNAL FOR ADVERTISERS.

PRINTERS' INK is just what it purports to be, "a journal for advertisers." It is issued on the first and fifteenth days of each month, and is the representative journal—the trade journal, so to speak—of American advertisers. It tells the intending and inexperienced advertiser in plain, comprehensive articles how, when, and where to advertise; how to write an advertisement; how to display one; what newspapers or other media to use; how much to expend—in fact, discourses on every point that admits of profitable discussion. If you advertise at all, PRINTERS' INK can help you. Perhaps you expend but Ten Dollars a year in advertising; if so, PRINTERS' INK may show you how to obtain double the service you are now getting for one-half the money. A year's subscription costs but One Dollar; a sample copy costs but Five Cents. Advertising is an art practised by many but understood by few. The conductors of PRINTERS' INK understand it thoroughly. Surely their advice, based on an experience of more than twenty-five years, will help you. Address:—



GEORGE P. ROWELL & CO'S
Newspaper Advertising Bureau
10 Spruce St., New York.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Arpad Haraszthy & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alleviates the thirst, aids digestion, and relieves lassitude.

"Dr. T. C. Smith, Charlotte, N. C., says:

"An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop."

Dr. J. S. Niles, Pownal, Vt., says:

"Excellent as a tonic, and refreshing as a substitute for lemonade."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

CONVENIENT TO ALL AMUSEMENTS

And shopping centres, with over 2,000 horse cars passing daily, and near to elevated, is the Sturtevant House, corner Broadway and 29th Street, N. Y. One of the most popular New York hotels.—*Mail and Express.*

MICHIGAN MINING SCHOOL.

For Catalogues, address

M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.

Robinson's SURE CURE FOR RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cure

RIDGE'S FOOD

The MOST RELIABLE FOOD
For Infants & Invalids.
Used everywhere. Not a medicine, but a steam-cooked food, suited to the weakest stomach. Pamphlet free. Woolrich & Co., (on every label), Palmer, Mass.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY

DERMATOLOGIST,

210 West 42d St., New York City, N. Y.

Use Woodbury's Facial Soap. By Mail, 50 cts.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices. Also, Free-hand Drawing.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

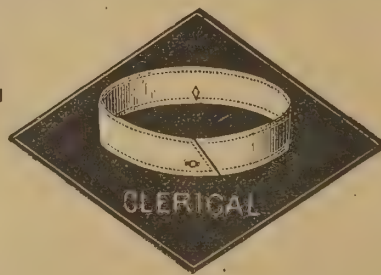
"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

LATEST ACHIEVEMENT IN

Celluloid

Collars,



Cuffs

and

Bosoms.

GEO. CLEMENT & CO.

The Celluloid Company confidently assert that they have attained the highest improvement in their Waterproof Collars, Cuffs, and Bosoms, which has ever been reached in this line of waterproof goods. We have examined their latest improvements, and tested them by every means at our command. We are convinced that they have never been excelled, and we are ready to give them our heartiest indorsement. They are pliable, most durable of any goods on the market, and resemble linen more perfectly than any waterproof imitation. Some strangers who have little acquaintance with these goods are under the impression that celluloid is an explosive material. This is an entirely erroneous idea. We can hold celluloid upon the hottest argand burner, and it will melt, but never ignite. The linen interlining makes it much stronger than any other goods in this line. We shall be glad to have any and all of our former patrons try these goods and write us their opinion of the same.

A full assortment of Celluloid Collar Buttons at 5 cents each by mail, post paid; and Cuff Buttons from 25 cts., to \$1.00 per pair by mail. These buttons are durable and never tarnish the Collars and Cuffs.

CELLULOID COLLARS and CUFFS cost no more than linen—look better and wear longer. They never wilt from perspiration, are always white, clean and fresh; require no laundrying—are manufactured in all the leading styles for both Ladies and Gents, Girls and Boys. When soiled, simply wipe them off with soap and water. They save their cost in a week's wear. Try them.



Be sure this trade mark appears on the all goods you purchase.

Address: GEO. CLEMENT & CO., 33 East 22d Street, New York City.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

A CHARMING BOOK, INVALUABLE TO EVERY LADY.

ARTISTIC EMBROIDERY.

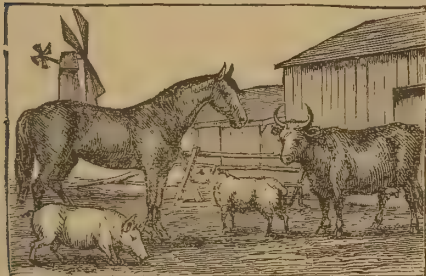
By ELLA RODMAN CHURCH.



EMBROIDERY—the Stitch; Group of Flowers; French or Flat Embroidery; Herring Bone or Feather Stitch; Chain Stitch; Ladder Stitch; DESIGNS; ARTICLES IN SILK EMBROIDERY—A Screen of Peacock Feathers; Banner Screen; Embroidered Table Top; Window-Curtain Border; Embroidered Dresses; Panels; Small Curtains or Hangings; an Embroidered Room; a Fan Table Cover; a Chair Cover; Fire Screens; a Child's Afghan; PRINT WORK; SILK EMBROIDERY WITH GOLD—Materials Used; Gold Cord; Gold Brail; Bullion; Spangles; Gold Thread; EMBROIDERED BOOKS AND OTHER ARTICLES; APPLIED WORK WITH EMBROIDERY—A Lambrequin in Applique; Silk Applique Work; Cretonne Work; Crape Pictures in Applique; Linen Applique; EMBROIDERY IN CHENILLE; SILK EMBROIDERY ON LINEN—Embroidered Fruit Doyleys; HOLBEIN WORK; CHURCH EMBROIDERY; LINEN LACE WORK—Point Conté; Rosettes, Insertions, etc.; Point Coupe; Point Tire; Imitation of Antique Lace. ARTISTIC EMBROIDERY is a large 12 mo. book of 122 pages, handsomely bound in paper covers, and profusely and elegantly illustrated. It will be sent by mail post-paid upon receipt of only **Twenty-Five Cents**, and is guaranteed to be the best book of the kind ever offered at this low price.

ALL ABOUT HORSES, CATTLE, SHEEP AND HOGS.

The American Live Stock Manual.



No subject is of greater importance to the farmer than that of Live Stock, and few there are who have not much to learn regarding it. Many a man has lost a valuable animal for no other reason than that he did not know how to take care of it when well or to treat it when sick. THE AMERICAN LIVE STOCK MANUAL is a book the cost of which is but trifling, but it is simply worth its weight in gold to every man in America who owns a horse, a cow, a sheep or a hog, for it is a complete text-book, containing the fullest information regarding the care and management, feeding and rearing, of live stock, likewise directions for the cure of all diseases peculiar to these animals and of all unruly and vicious habits, for the construction of necessary buildings and conveniences, etc., etc. The following are only a small portion of the topics treated in this book: How to Judge a Horse; Feeding Horses; Raising a Colt; To Bit a Colt; To Break Horses from Pulling at the Halter; Warts on Horses; Stumbling Horses; Cure for Balty Horses; Kicking Horses; Training Vicious Horses; Galls and Sores on Horses; Raining Horses; Colic; Bots; Founder; Hay fever; Epizootic; Shying; Scratches; Ringbone; Spavin; Cribbing; Bruises and Bruises; Hide-Bound Horses; Avoiding Indigestion; Windgalls; Brittle Feet; Worms; Over-Reaching; Sprains and Grooming; Shoeing; To Make the Mane and Tail Grow; Box Stalls; Stables and Stabling; Breeding Horses upon Farms; Horse Education; Ringing a Bull; Relieving Choked Cattle; Bone Disease in Milch Cows; Marks of a Good Cow; Cattle Racks and Feed Boxes; Feeding Cattle; How Good Cows are Ruined; To Prevent Hooking Fences; Black Tongue; Lice; To Prevent Kicking; Contagious Cattle Diseases; Feeding Stock; Milking; Cooking; Feed for Live Stock; The Soiling System; Raising Calves; To Break a Heifer or Vicious Cow to Milk; Wintering Live Stock; How to Take Off a Hide; Assistance at Birth; Hollow Horn; Obstructed Teats; Black Leg; Caked Udder; Jumping Cattle; Garget; Care and Management of Hogs; Pigeries; Troughs; Pig Raising; Over-Feeding; Sanitary Management of Swine; Hoz Cholera; Paralysis; Scurvy Pigs; Preparing Food for Swine; Butchering; Fattening Hogs; Driving Hogs; To Prevent Hogs Becoming Diseased; Raising Sheep; Washing Sheep; Sheep Rot; Hurdling Sheep; To Tell the Age of Sheep; Sheep Ticks; Early Lamb; How to Make Sheep Pay; Shearing of Sheep; The Treatment of Lamb; Increasing the Growth of Wool. THE AMERICAN LIVE STOCK MANUAL is a large book of 122 pages, 12mo, with handsome cover, and is profusely illustrated. It will be sent to any address by mail post-paid upon receipt of only **Twenty-Five Cents**. Send for it! The price is but a trifle compared to its real value to every farmer.

Four Books in One! No Household is Complete Without It!

THE COMPLETE BOOK OF HOME AMUSEMENTS.



What most lives need is more sunshine. Let us banish care, have a good time, enjoy ourselves while we may. How much happier—how much better off—are those homes wherein the father and mother, and even the gray-haired grandparents, join with the children after tea in merry game or other amusement, than those wherein reticence and reserve and chilly demeanor prevail. "But," you say, "what shall we do? We read until we are tired; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful book it is. It contains 64 large 3-column quarto pages, neatly bound in handsome covers, and is filled to the brim with every conceivable thing for the enlivenment of home. It is in reality four books in one, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It is a complete text-book for Public and Private Entertainments, Private Theatricals, Parlor Exhibitions, Social Gatherings, School Exhibitions and Evenings at Home. It is a book for old and young, grave and gay—a veritable storehouse of good things for all. It contains a number of ACTING CHARADES, with full directions how to perform them. It gives some very excellent PARLOR DRAMAS, easily acted yet very amusing. It tells all about SHADOW PANTOMIMES, and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful TABLEAU VIVANTS, and gives full and explicit directions for performing them. In it are so many amusing PARLOR GAMES that we have not attempted to count them, but we think we have almost everything, new and old, that was ever thought of in the game line. Then we come to a lot of wonderful ILLUSTRATED FRIZZES—lambent, perplexing, apparently intricate, but so easy when you turn to the proper place and learn the answers. Here also is a savory dish of RIDDLES, ENIGMAS, CHARADES, ETC.—a nice large lot of them. How young and old heads will puzzle and study over them, and how proud you will feel when you have solved one correctly. As to CONUNDRUMS, there are nearly a bushel of them, some so funny you will want to hold your sides with laughter, and what fun it will be for one of the company to read the questions and see who can guess the answers! A considerable portion of the book is allotted to PARLOR MAGIC, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are a lot of amusing and instructive CHEMICAL EXPERIMENTS, showing how the combination and manipulation of the simplest agents will produce the most surprising results. Following these are a number of excellent DIALOGUES, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest RECITATIONS, dramatic, pathetic, sentimental, and comic, ever written. It is handsomely illustrated, and is indeed a splendid book. THE COMPLETE BOOK OF HOME AMUSEMENTS will be sent by mail, post paid, to any address, upon receipt of only **Twenty-Five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the AMERICAN ANALYST for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the AMERICAN ANALYST. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

UNEQUALLEDAsk your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.**DELICIOUS**

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand),** in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 35
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

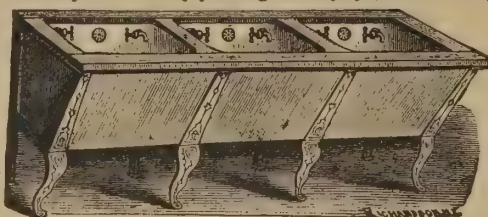
STEWART CERAMIC CO.,

312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.**VERY STRONG.**

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTONCan be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.****SWIFT AND COMPANY,****UNION STOCK YARDS,****CHICAGO, ILLS.**

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose sycorious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM.

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition :	ALBUMINOIDS.....	19 Parts.
	MILK SUGAR.....	64 "
	FAT.....	10 "
	MINERAL MATTER.....	3 "
	CHLORIDE of SODIUM added.....	1/2 "
	PHOSPHATES of LIME added.....	1/2 "
	MOISTURE.....	3 "

SEND FOR SAMPLE and
compare it with every other
food used in artificial feeding of
Infants.

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. A SEDATIVE, NERVE AND BRAIN FOOD.

(GRANULAR EFFERVESCENT.)

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	DIGEST AND ANALYST. PRICE.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE VIBURNUM COMPOUND OF DR. HAYDEN, THE STANDARD IN FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS
Leading Numbers: 14, 048, 123, 130, 135, 333, 161.
For sale by all stationers.
THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

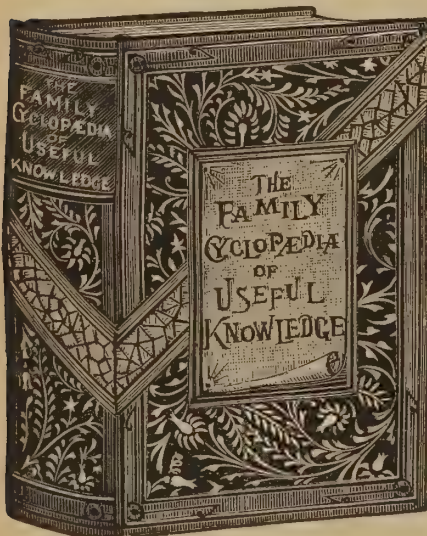


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. **WOOLRICH & CO.** Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,
—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.
MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

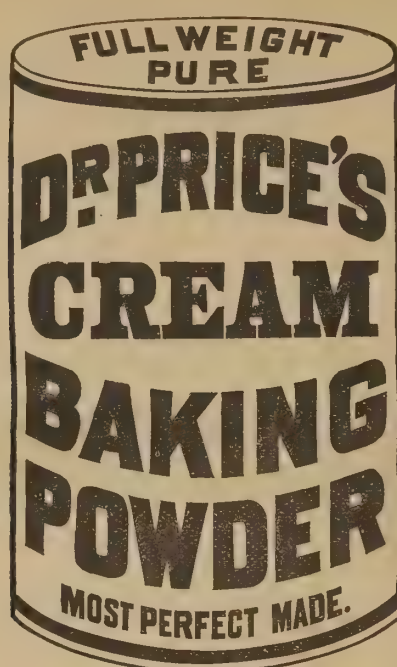
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

COLDEN'S LIQUID BEEF TONIC.

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fused Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)". It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.



The Most Reliable Food
For Infants & Invalids.
Not a medicine, but a specially
prepared Food, adapted to the
weakest stomach. 4 sizes cans.
Pamphlet free. Woolrich & Co.
(on every label), Palmer, Mass.

"BILLET"

are

Carefully Selected

French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

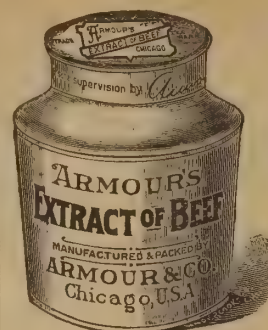
PURITY-STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endor-
sed by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 30.

NEW YORK, THURSDAY, JULY 25, 1889.

WHOLE No. 126.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Artificial Wine	352
Contagious Consumption	350
Domestic Dietetics	352
Editorials	349
Annulling Absurd Legislation; A Russian Fish In- quiry; Statistics of American Life; Cherry Gardening.	
Health Hints	350
Luxuries of Service	352
Meat Products of America.—Illustrated	350
Reasonable Food	352

ANNULLING ABSURD LEGISLATION.

Following speedily upon the recent decision of Judge Johnston, of Indiana, declaring the beef inspection bill in that State unconstitutional, the courts of Minnesota have been appealed to for a determination of the same point within the limits of their jurisdiction. The result can be confidently predicted. The *N. Y. Commercial Bulletin* of July 17 says on the subject: "The Minnesota law prohibiting the sale of beef that was not inspected on the hoof within the State is to be tested by a case carried directly to the highest court for decision as to its constitutionality. The ground on which the validity of the law is questioned is that the exclusion of beef killed in other States is an unlawful restriction on Interstate commerce. An Indiana court has already sustained this claim, and it can scarcely be doubted that the Minnesota court will take the same view. From present appearances, the Legislatures that adopted this measure at their last session will not have time to reassemble before the enactment has been wiped from the statute books as a gross violation of the fundamental principles of our Government. The Meat Inspection bill was one of a number of measures urged on the Leg-

islatures similar in purpose and equally pernicious. The results of the experiment already tried should serve to ensure the defeat of the others."

A RUSSIAN FISH INQUIRY.

The Russian Academy of Sciences offers a prize of \$2,500 for the best inquiry into the nature and effects of the poison which develops in cured fish. The objects of competitors must be: "To determine, by means of exact experiments, the physical and chemical nature of the poison which develops in fish; to study, by experiments on animals, its action upon the heart, the circulation of the blood, the organs of digestion, and the nervous system; to determine the rapidity of its absorption by the digestive organs; and to study and describe the characteristics which may serve to distinguish contaminated fish from such as are not contaminated." The fifth and sixth questions, with which it may be impossible for any one to deal satisfactorily, relate to the means of preserving fish from the development of the poison, and to the question of counter-poisons and the medical treatment of poisoned persons. The competition is open to all. The memoirs must be sent in, either in manuscript or printed, before January 1, 1893, and may be written in Russian, Latin, French, English, or German. If none of the papers is deemed worthy of the full prize, the accumulated interest upon the above named sum may be handed over to the author who presents the best solution of some part of the problem.

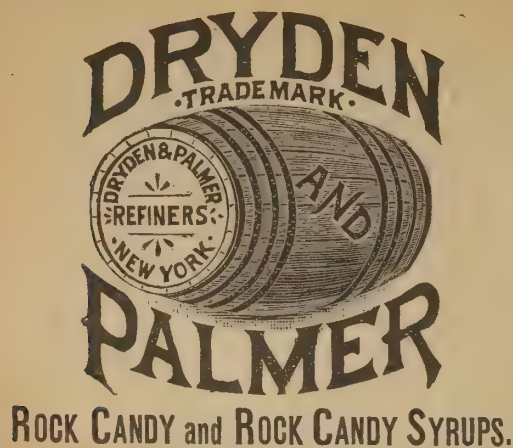
STATISTICS OF AMERICAN LIFE.

One of the leading life insurance companies of this city has recently issued a book containing a statement of actuarial and medical statistics collected by its officers during the past twenty-six years. We condense herewith some of the results of general interest contained in this summary of a quarter of a century. The readers of the *AMERICAN ANALYST* will, perhaps, be somewhat surprised to learn from this authority that the period of life is greater with native Americans than among the foreign-born members of our population. Of these latter the natives of Ireland have the best record, then come the natives of Great Britain, after them the Germans, and last of all the Canadians. Among the foreign born it is the natives of Canada that suffer most from consumption, and those of Great Britain that suffer least. Relatively few Germans or natives of Great Britain die of apoplexy. Germans furnish the highest percentage of suicide of any nationality, while the deaths from this cause among the native-born Americans are very few. Native Americans are also, as a class, singularly free from diseases of the liver, which among all other nationalities give a high death rate. This comparative immunity from such disease is shared by Canadians. In the Northwestern States the mortality from zymotic diseases, including typhoid fever,

is very great, and the percentage of accidents and suicides is also greater there than in any other part of the country. The mortality from typhoid fever in the Southern States is low compared with that from other zymotic diseases, which cause there a large percentage of the deaths, while diseases of the liver are more common, and diseases of the kidneys comparatively rare. The conditions in the Southern States are apparently less favorable to life than in the other parts of the Union. The occupation most conducive to longevity is that of merchants. Next to these in expectation of life come farmers, then follow in succession doctors, lawyers, clergymen, shopkeepers and hotel keepers. It may be mentioned that among hotel and saloon keepers, brewers and wholesale liquor dealers, the deaths from consumption, heart disease, and zymotic diseases are comparatively few, while the rate for nervous diseases and diseases of the liver is extremely high. Brokers follow next to hotel keepers as regards average length of life, and then mechanics; while the very last on the list, ranking even after those engaged in occupations which are classed as "hazardous and unhealthy," are clerks and persons engaged in similar wholly sedentary occupations. The statistics show that one of the chief causes of the short duration of insurance for this class is the prevalence among them of consumption, which causes the death of almost one-third of the total number.

CHERRY GARDENING.

It is a novel proposition to us in America, notwithstanding the well-known fact that peaches are cultivated in England under glass, to learn that cherries are also grown there in this manner. A correspondent of the *Gardener's Chronicle* recently described the cherry-house at Gunnersbury Park, where many different varieties afford fruit at different times during the season. "When the trees are started into growth," he says, "a temperature of 45 deg. by day, and 40 deg. by night, is maintained. When they are in flower, plenty of air is given, and the bees are encouraged to work among the blossoms as much as possible. Scarcely any fire-heat is employed; indeed, it had been employed only once or twice in order to keep out frost. At the time of flowering, plenty of ventilation is given, top and bottom. As soon as the fruit has set, the house is closed up somewhat, and the temperature kept quite cool until the stoning process is over; then it is kept a little closer, as when the fruit has stoned it ripens quickly. It is a little difficult to thin out the fruit previous to the stoning stage, as it is uncertain which fruit will mature, and which will fail. A good watering is given to the trees before they get into flower, and then water is applied with moderation until the fruit has set. Cherries appear to do best, and set their fruit more freely, when somewhat dry at the roots, whether the trees are planted out or in pots, and it appears to be quite certain that all flower more freely when worked on the mahaleb than when on the cherry stock."



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

HEALTH HINTS.

SOME COMMON SENSE IDEAS FOR PRACTICAL USE.

One of the best ways to keep in good health is not to think or worry too much about it. If you feel strong and well, don't imagine that some insidious disease may be secretly attacking your constitution. Many people are like the inexperienced traveller, who anxiously inquired about the symptoms of seasickness, and how he should know when he had it. One generally knows when he is sick, and frequently many supposably alarming symptoms prove, upon investigation, to be either perfectly natural occurrences or of very slight importance. Eat and drink what you desire, as long as it agrees with you. Your stomach knows pretty well what it can digest. Plain, simple food is desirable, as a general thing, but the luxuries of the table, in moderation, will do no harm. Alcoholic beverages are not fit for habitual use. They are true medicines, and should only be used like any other medicines—under the advice of a physician. As a regular beverage they can do no good, but will almost certainly do harm. Take all the sleep you can get, but remember that the necessary amount varies greatly for different persons. Some must sleep at least nine hours, while others thrive under six. Only don't rob yourself of what you really need. The "midnight oil" is a terribly expensive illuminant to burn, either for purposes of labor or study. Avoid sudden changes of temperature. You cannot avoid them in New England, but you can guard against them by always wearing flannel underclothing. The lightest grade of flannel sold especially for summer wear, is a great life-preserver, and not oppressively warm, even in the hottest weather. Always treat a common cold with great respect. Ninety-nine times out of a hundred it will get well anyway, but the hundredth cold, if neglected, may lead to bronchitis, pneumonia or consumption. It is best to take no such chances. Don't trifle with patent medicines. If you are sick enough to need any medicine at all, beyond the simple household remedies familiar to all, you are sick enough to need the attendance of a physician. If your watch is out of order, you do not fuss over it till it goes, but send it to a watchmaker; but too many people, when their infinitely more delicate bodily machinery goes wrong, think they are fully equal to the task of setting it right again. They are the undertakers' best friends. Whatever else you do, don't employ any physician who advertises. There is nothing criminal in advertising, but, by common consent and agreement, all reputable physicians leave such methods of business to the traveling quacks, mind-healers, "Indian" physicians, "medical institutes," and a thousand and one other

forms of ignorance and rascality which prey upon a long-suffering people. The so-called regular physicians are not omniscient or omnipotent, but they know more about disease than anybody else, and will do all that anybody can to cure you. Don't read medical works, unless you are prepared to have all the different diseases therein described. It takes a strong mind to read a minute description of any disease without discovering some of the symptoms in himself. The quacks know this well, and their so-called "medical" books consist principally of descriptions of every imaginable symptom, appended to the most painful and fatal diseases. Remember, that if you think you have undoubted symptoms of Bright's disease, consumption, cancer, insanity, or paralysis, that you probably haven't a trace of any such disease about you. The favorite prescription of a very successful physician was "to be little lazy." This remedy ought to be used with judgment. He once recommended it to a government official, but, with most people, rest and quiet are the best possible means of cure, and a change of occupation is usually better than a total cessation of activity. By all means take as much exercise as you can, and be in the open air as much as possible. Out-door life is the natural condition of mankind, and the more one can have of it the better. The practice must not be carried to extremes, however. There are many days when one is much better off in a warm, comfortable, well-ventilated house, than trying to take out-door exercise in a mid-winter storm, or under a July sun, and no one ever strengthened his constitution by sleeping with his bed-room window open, with the outside temperature at zero, or allowing the snow to drift in upon his pillow. Fresh air, sunlight, good and sufficient food, pure water, out-door exercise, temperance in all things, and a cheerful disposition, are the chief remedies in Nature's pharmacopoeia, and are worth more than all the drugs and medicines of the shops. Dr. Holmes has truly said that if nine-tenths of all the medicines in the world were poured into the ocean, it would be all the better for mankind and all the worse for the fishes; and the best physician can do little more than to provide good nursing, and aid nature in throwing off disease.—*Pop. Science News.*

CONTAGIOUS CONSUMPTION.

IMPORTANT RULES FOR AVOIDING THE CONTAGION.

The following report on consumption as a contagious disease, was approved July 9, by the Health Department of New York City, and 10,000 copies were ordered printed for distribution:

"Pulmonary tuberculosis (consumption) is directly communicated from one person to another. The germ of the disease exists in the expectoration of persons afflicted with it. The following extract from the report of the pathologists of the Health Department explains the means by which the disease may be transmitted:

"Tuberculosis is commonly produced in the lungs (which are the organs most frequently affected) by breathing air in which living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption, contains these germs often in enormous numbers. . . . This material when expectorated, frequently lodges in places where it dries, as on the street, floors, carpets, handkerchiefs, etc. After drying in one way or another, it is very apt to become pulverized, and float in the air as dust."

"By observing the following rules, the danger of catching the disease will be reduced to a minimum:

"1. Do not permit persons suspected to have consumption to spit on the floor or on cloths, unless the latter be immediately burned. The spittle of persons suspected to have consumption should be caught in earthen or glass dishes containing the following solu-

tion: corrosive sublimate, one part; water, one thousand parts.

"2. Do not sleep in a room occupied by a person suspected of having consumption. The living rooms of a consumptive patient should have as little furniture as practicable. Hangings should be especially avoided. The use of carpets, rugs, etc., ought always to be avoided.

"3. Do not fail to wash thoroughly the eating utensils of a person suspected of having consumption as soon after eating as possible, using boiling water for the purpose.

"4. Do not mingle the unwashed clothing of consumptive patients with similar clothing of other persons.

"5. Do not fail to catch the discharges of consumptive patients with diarrhoea in a vessel containing, corrosive sublimate, one part; water, one thousand parts.

"6. Do not fail to consult the family physician regarding the social relations of persons suffering from suspected consumption.

"7. Do not permit mothers suspected of having consumption to nurse their offspring.

"8. Household pets (animals or birds) are quite susceptible to tuberculosis; therefore do not expose them to persons afflicted with consumption; also do not keep, but destroy at once, all household pets suspected of having consumption, otherwise they may give it to human beings.

"9. Do not fail to thoroughly cleanse the floors, walls and ceilings of the living and sleeping rooms of persons suffering from consumption at least once in two weeks."

AMERICAN MEAT PRODUCTS.

OUR DOMESTIC AND FOREIGN TRADE.

DESCRIPTION OF A TYPICAL PACKING HOUSE.

The production of meat in the United States annually amounts to 3,770,000 tons of which 3,260,000 tons were consumed. Of hog products, including lard, the annual gross weight is 3,837,623,000 pounds. Although owing to unfriendly legislation in some foreign countries our exports of meats have largely decreased since 1881; they are now again on the increase, which is due to the well-known superiority of our products. One of the large producers and exporters of meats is The Jersey City Packing Company.

When a business enterprise is started, and after having erected what they considered a very large building to enable their business to be conducted satisfactorily, finds that in less than a year the building does not afford room enough, it shows that their success has been beyond expectation. Such is the condition in which the Jersey City Packing Company, G. F. and E. C. Swift, Proprietors, find themselves. They occupy a five-story brick building covering six city lots, on Ninth Street, Jersey City. No mere description could give the reader an adequate idea, we, therefore, illustrate this article. This large building is plentifully supplied with the latest improved machinery in the way of steam engines, pumps, dynamos, elevators, and two of the very best Myer's anhydrous ammonia ice machines, of a capacity each of fifty tons of ice a day. By aid of these machines a circulation of brine is maintained through iron pipes of one and a quarter inches diameter, running throughout the building, enabling the employés to maintain at will a temperature of from zero to the ordinary temperature of the air in any of the numerous rooms through the building. The encrustations on these pipes from the condensation and freezing, enlarges their outer circumference to about eight inches, and is a wonderful sight in itself. The



AMERICAN MEAT PRODUCTS.—BUILDING OF THE JERSEY CITY PACKING COMPANY

two cellars running under the entire building contain upwards of 350 pickling tanks. Each tank has a capacity of about four thousand five hundred pounds of beef or pork. The first floor contains the offices, and the cutting and packing rooms. The upper story is used for storing salt and other raw materials. Here are also the sausage meat cutters, drying and smoke houses, cooperage and general storage rooms. The other floors are used exclusively for cold storage, varying in temperature according to the kinds of goods kept therein, some goods requiring a much colder temperature than others. The variety of provisions made by this company is something quite large in itself. It is impossible for an outsider casually allowed to inspect the establishment, to remember all that was shown, but some items may be of interest. India Mess beef, extra plate, extra packet, dried beef, sausages of every kind, hams, bacon, boneless ham and bacon, pressed ham, sides, backs, shoulders, all kinds of barrelled beef and pork, lard and tallow. Two steam elevators in the building, endless overhead tramways for the rapid and easy handling of heavy goods, and railroad tracks alongside of the building connecting with every railroad terminating on the New Jersey shore, gives this firm the best facilities for handling their business.

By way of general remark, it may be added that electric lights in every part of the building, perfectly dry refrigerators, and the most scrupulous cleanliness of the floors, walls of the buildings, and clothing of the employes, gives the whole an appetizing inviting appearance. On every package sent out is put the brand of this firm, which is a guarantee taken and accepted by the community and commercial world, that the goods within the package are just what the label represents them to be. At a short distance from this packing house is the stable, another magnificent brick building, having accommodation for seventy-five horses. Most of these are of the heavy Norman Percheron breed, who, in two, three, four and six horse teams, haul the heavy trucks and wagons of the firm. Here, too, perfect cleanliness and system prevail. Everything seems to have its place and be in it. The horses look well fed and groomed, and most remarkable part of all, attesting great kindness and care, there is not a vicious

or tricky horse among them, a biting or kicking horse being unknown. A blacksmith and horseshoer are kept constantly employed to shoe the horses and make light repairs to the vehicles. A harnessmaker is employed for a similar purpose, and two men are constantly engaged in washing and oiling the harness. By a perfect fire-alarm system, every man on the premises can be instantly called to any part of the building, water buckets and other fire apparatus being kept on every floor. It may also be interesting to learn that experience has taught the superintendent that he can best keep up the health, strength and beauty of the horses

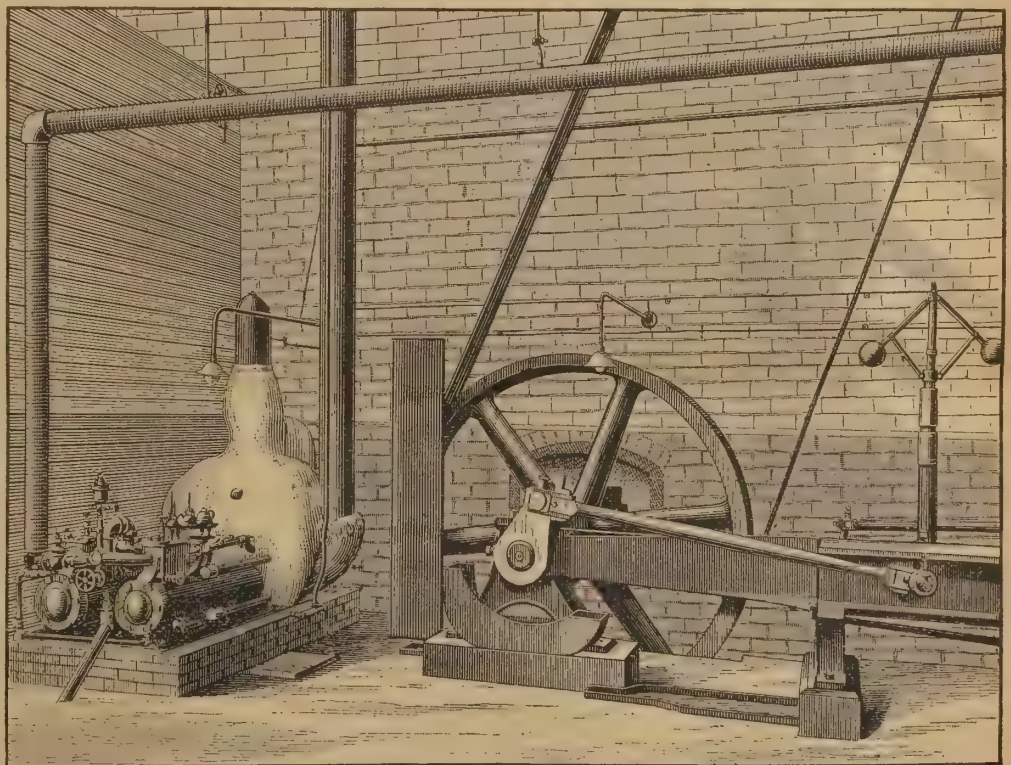
under his care, by feeding nothing but the best hay and oats.

With all this careful management, it is no longer any wonder that the brands of G. F. & E. C. Swift, have attained a world-wide reputation in every commercial city of the world, and that the present large capacity of this establishment has already been exceeded by the rapidly growing demands upon it. But such has always been the history of G. F. & E. C. Swift, in every enterprise they have undertaken; they have always done their best to do all they agreed; they have been moderate in demands of profit; they have rigidly maintained the standard and quality of their output, and above all have been businesslike and gentlemanly in all their dealings and correspondence. Having the good judgment to employ only the best men, they constantly verify the old adage, "Like priest, like people."

It would indeed be strange if they did not succeed.

BRITISH STATISTICS.—The total area in square miles of the British Empire is 9,416,032. Of this 121,248 miles are in Europe, 1,706,569 in Asia, 768,841 in Africa, 3,172,040 in Australasia, 437 in Oceania, 3,523,489 in North America, 7,913 in the West Indies, and 115,500 in South America. The total population is 312,940,710, of which 261,314,826 are in Asia, and 37,781,714 in Europe. The total public revenue is £206,608,065, and the total public expenditure £190,543,974 per annum. The aggregate value of the imports is £594,389,637, and of the exports £516,401,680, or a total trade yearly of the enormous amount of £1,110,891,317. The public debts aggregate £1,123,390,071, or a trifle more than the total of one year's trade.

NEW APPLICATION OF PLASTER.—A new process of hardening plaster, so as to make it available for the construction of floors in place of wood, has been brought before the French Academy of Sciences by M. Julte. A mixture of six parts plaster of good quality and one part of finely-sifted, recently-slacked white lime is employed like ordinary plaster. After it has become thoroughly dry, the object manufactured from it is saturated with a solution of any sulphate whatever whose base is precipitated in an insoluble form by lime. The sulphates especially recommended for the purpose are those of iron and zinc. In order to obtain the maximum of hardness and tenacity, it is necessary to temper the limed plaster well in as brief a space of time as possible, and with no more water than is strictly necessary.



AMERICAN MEAT PRODUCTS.—REFRIGERATING MACHINE PUMP, SHOWING INCrustation OF ICE.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

July.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal.

GAME AND POULTRY.—Pigeon, chicken, duck.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, clams, flounder, haddock, halibut, herring, lobster, mackerel, mussels, perch, porgie, prawn, salmon, shad, turtle, trout, sturgeon, whiting, weak-fish.

VEGETABLES.—Beans, cucumbers, carrots, cauliflower, egg-plant, lettuce, onions, parsley, parsnips, potatoes, shallots, spinach, turnips, radish, rhubarb, corn, beets.

FRUITS.—Cherries, strawberries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple.

PRACTICAL RECIPES.

CARAMEL FOR SOUPS.—Two teaspoonfuls of water, one teacupful of sugar; put in a saucepan over the fire, and stir constantly till it has become dark; add half a teacupful of water and season with a little salt. Boil for a few moments, take off, and bottle for use.

ROAST BEEF WITH YORKSHIRE PUDDING.—Bake the beef as any ordinary roast; half an hour before it is done take it from the pan and lay it on the grating in the oven, putting in the pan directly under it a smooth batter made of a pint of milk, three eggs, three cupfuls of flour, salt. Cook for half an hour, and serve the pudding in slices arranged around the meat.

HORSFORD GRAHAM MUFFINS.—Two cupfuls of Graham flour, two cupfuls of white flour, two heaping teaspoonfuls of Horsford's baking powder, two table-spoonfuls of sugar and a teaspoonful of salt, mixed thoroughly together dry. Then add one quart of sweet milk, making a thick batter. Bake immediately in muffin rings.

CURRENT PIE.—Line a pie plate with some good rich pastry, fill with ripe currants from which the stems have been removed, sprinkle plentifully with sugar, add a little water, over the top put a sprinkling of flour, put on the top crust and bake to a good brown.

LIMA BEAN SALAD.—Cover a pint of lima beans with water, add a little salt and let them cook for forty minutes; then drain and put them in a salad bowl with three or four small freshly boiled potatoes cut into slices, add a few stalks of celery, chopped, and over all pour a plain dressing. Let the salad get quite cold before serving.

ASPARAGUS OMELET.—Four eggs, two-thirds of a cupful of milk, half a cupful of cold boiled asparagus tops, or cauliflower chopped fine; beat whites and yolks together, add the milk and vegetable, season with pepper and salt, and turn into a hot, well buttered or oiled pan. Fold over double when done and serve at once.

JELLIES FROM BERRIES AND CURRANTS.—Pick over your fruit, crush it and put it in a stone jar, which set in a vessel of boiling water. Let the fruit heat slowly till you can express the juice; add an equal amount of water to the juice and boil it for twenty minutes. Dry in the oven as many pounds of sugar as there are pints of juice, add to the juice and let it heat till the sugar is entirely dissolved, when the jelly is ready to put into the glasses.

Subscriptions \$1 per year. Now is the time to subscribe.

LUXURIES OF SERVICE.

HOW THE SERVANTS OF NEW YORK MILLIONAIRES ARE PROVIDED FOR.

In Mr. W. K. Vanderbilt's house the social life of the servants has been considered even luxuriously, a *Star* writer has discovered. The basement is theirs exclusively. Their entrance is by a special door. In front is a billiard room for the men, and a parlor and sitting room for the maids. Their sleeping rooms are in the mansard. These are finished in hard wood and attractively furnished. In the mansard also is a large room given over for their entertainment, where at times they may hold a servants' ball. In Mr. Marquand's house the humanities are still further regarded. A servants' elevator extends from the basement to the living rooms on the top floor. Here they have prettily appointed bedrooms and bathrooms lined with enamel tiles and answering to the most scrupulous demands of cleanliness. The house-keeper has here her suite of rooms, including a parlor. The square hall in the Marquands' house is carried to the roof and gives place on each floor to a balcony and corridor. This is not omitted on the servants' floor, where through perforated carvings they can look down on any gala scene below. Another instance of Mr. Marquand's thoughtfulness is in a stairway leading to the roof, which has been terraced. Here, instead, in the cool nights, of hanging over the area to get a breath of air, the servants can sit and enjoy the famous southwest wind that so seldom fails, and look down on the myriad-lighted town—a view in every season full of beauty. Many mistresses take pride in the servants' rooms and make show places of them. In this case the servants are obliged to keep them tidy. I was in a servant's room the other day in one of the magnificent apartments in the Central Park. A velvet carpet covered the floor and the furniture was in keeping. This degree of luxury was merely incidental. The tasteful but cheap ash bedroom sets are chosen for servants' rooms, and the clean and comely bedsteads of black enameled iron. Some mistresses go further and add book-shelves, and, possibly, a few books, according to their zeal. The prints from the illustrated papers are saved for their adornment. Young housekeepers particularly take delight in giving their personal attention to establishing their servants. In this case their shock at the ingratitude of servants who walk off in the midst of the ironing or dinner is proportionately great.

ARTIFICIAL WINE.

THE UTILIZATION OF BERRIES TO AVOID DECEPTION.

There are numerous factories in Germany which introduce beverages into the market under the name of "artificial wine" (kunstwein). But these factories of artificial wine have, says the *Victualling Trade Review*, their very doubtful point, inasmuch as great quantities of their production, when they get into the second or third hand, are sold as genuine. In order to avoid paying a good price for an inferior article, the farmer may, with some attention and industry, prepare himself his own domestic beverage, and have thus a much better and cheaper article than he can buy in the factory under the name of artificial wine, or as wine if he buys it from an agent. For the manufacture of a good domestic beverage different sorts of fruits, the residuum of pressed grapes, wine lees, berry fruits (also kernel fruits, as cherries and plums), and dried grapes may be used. Currants and gooseberries yield almost every year a good crop, and even on a small area of land they furnish so much fruit that, by adding the necessary water and sugar, a great quantity of wine can be produced. Whortleberries are very abundant in some districts. The price of sugar being rather low, the expenses are but small. For one hectolitre (nearly 26

gallons wine measure) of good domestic beverages, sugar for only about seven or eight marks is wanted. The berries contain too little sugar, and, with the exception of thoroughly ripe blackberries and sweet cherries, too much acidity. The acidity must, therefore, be attenuated and sugar added. If too little water is used, the wine becomes too sour. At the exposition in Bruchsal, Baden, in April of last year, all the new sorts of prize wines, and seven of twelve wines having received diplomas, were attenuated with water in certain proportions. The wine becomes stronger or weaker according to the quantity of sugar added. By adding too little sugar the wine becomes weak and not durable.

REASONABLE FOOD.

THE VALUE OF FRUIT AS A CORRECTIVE AGENT.

What shall we eat? This question confronts us daily. Upon its wise solution depends, to a great extent, the health and happiness of the human race. A judicious dietary is an evidence of a high state of civilization; for brain and brawn are in a general sense the outcome of the kind of food eaten, its method of preparation, and the style in which it is served and introduced into the human economy. Americans are a little astray in the matter of diet. The average table is a strange mixture of English, Dutch, French and everything else beside. There seems to be a strong tendency in human nature towards the consumption of food that is too concentrated. The old Indian chief complained that the pale faces, especially women, were dying of too much house. The modern civilized world is dying of too much eat. Some people are afraid to eat fruit, thinking that fruit and diarrhoea are always associated, when, if they understand the true cause of diarrhoea they would know that it is caused by eating meat. In hot weather meat putrefies very quickly, and during this process alkaloids are formed which are very poisonous, acting as emetics and purgatives. It is true that fruit eaten green or between meals will interfere with digestion and cause bowel troubles; but use fruit that is perfectly ripe at meal-time, and only beneficial results will follow. Acids prevent calcareous degenerations, keeping the bones elastic, as well as preventing the accumulation of earthy matters. Fruit is a perfect food when fully ripe, and if it were in daily use from youth to age there would be less gout, gall-stones and stone in the bladder. Taken in the morning, fruit is as helpful to digestion as it is refreshing. The newly awakened function finds in it an object of such light labor as will exercise without seriously taxing its energies, and the tissues of the stomach acquire, at little cost, a gain of nourishment which will sustain those energies in later and more serious operations. It is an excellent plan, with this object in view, to add a little bread to the fruit eaten. While admitting its possession of these valuable qualities, however, and while also agreeing with those who maintain that, in summer, meat should be less and fruits and vegetables more freely used as a food, we are not prepared to allow that even then an exclusively vegetarian regimen is that most generally advisable. Meat provides us with a means of obtaining albuminoid material, which is indispensable in its most easily assimilable form. It affords us in this material not only an important constituent of tissue growth, but a potent excitant of the whole process of nutrition. It has a definite and important place in the ordinary diet of man, and the wholesomeness of fruit, combined with farinaceous food as an alterative dietary, is not so much an argument in favor of the vegetarian principle, as proof that seasonable changes in food supply are helpful to the digestive processes and to nutritive changes in the tissues generally. With proper eating and drinking, there would be fewer broken-down nervous wrecks, and far more vigorous intellects. There is far too much meat eaten. Meat three times a day is more than

average town-dwelling human nature can endure. Functional disturbances of the liver, gall-stones, renal calculi, diseases of the kidneys, dyspepsia, headache, fits of ill-temper or of the blues, irritability and general absence of the joys of life are largely due to an excess of meat and other highly concentrated food. These conditions, like attacks of gout and dyspepsia, are the unfortunate possession of those who will have them. Ignorance of the law is no excuse. What shall we eat? As a preliminary answer we reply—eat more fruit.—*Medical Classics.*

MOSQUITOES.—To expel mosquitoes, take of gum camphor a piece about one-third the size of a hen's egg, and evaporate it by placing it in a tin vessel and holding it over a lamp, taking care that it does not ignite. The smoke will soon fill the room and expel the mosquitoes, and they will not return, even though the windows should be left open all night.

HOW TO DRINK SODA WATER.—"Soda-water is good," said a physician, "provided that you do not get too much of the syrup. That is not always wholesome. But if you want a good morning drink, tell the soda boy to sprinkle a little salt in a glass, say enough to cover the bottom, then pour in a little Horsford's acid phosphate, and next fill up with the pure soda. It will bite your tongue, but it will do your stomach good."

THE CHAMBERMAID CURE.—The Queen of Sweden is undergoing peculiar treatment to restore her nerves to a normal condition. Her doctors have ordered her to rise early, make her own bed, and dust and sweep the room. She has to take a walk in the garden before breakfast, work among the flowers afterwards, and lead an active out-door existence all day long. Already the Queen has been benefited by this curious cure—the chambermaid treatment, as it is called. It is not likely to become popular.

THE BANANA.—The true eating banana, or "madura," is said to be unknown in northern countries, the varieties we import being simply those which are used in the land of their growth for cooking-purposes. *Garden and Forest* states that many varieties of the madura are recognized, each of which is distinct in flavor. The smaller are the more delicious; and the smallest of all, the so-called "lady-finger banana," with a skin hardly thicker than paper, is the most highly prized. Green cooking-bananas are peeled, and roasted in the ashes, and eaten with butter; partially ripe ones are boiled for a few minutes with the skin on, and eaten with syrup or honey; and ripe ones are sliced lengthwise, and fried in olive-oil or butter.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN SOVEREIGN.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

PASTEUR'S METHOD.—In his brief report for the year ending May 1, 1889, the director of the Pasteur Institute, Paris, announces the treatment of 1,673 subjects, of whom six were seized with rabies during, and four within a fortnight after, the process. But three only succumbed after the treatment had been completely carried out, making one death in 554, or, including all the cases, one in 128.

UNDERGROUND BACTERIA.—Underground water and bacteria were the theme of a recent lecture delivered by Dr. C. Fraenkel, assistant to the famous bacteriologist, Dr. Robert Koch, in the Hygienic Institute at Berlin. The gist of the lecture was that the underground water of Berlin is free from bacteria, that this surprising fact is due to the great filtering power of the ground, and that consequently the water drawn from the artesian wells is perfectly wholesome. These results do not correspond with those obtained in New York, where the water from artesian wells has in many, if not in all, cases proved to be impure.

BUSINESS NOTES.

NIEDER-SELTERS SPRING MINERAL WATER.

The Nieder-Selters Spring, beyond question the most famous mineral spring in the world, is located in the lovely Valley of Emsbach, in Prussia, about thirty miles from Frankfort-on-the-Main, and about an equal distance from the beautiful city of Mayence. The curative properties of its water have been famous since as early a period as the ninth century. In those primitive days the spring was a popular resort for invalids, though its reputation, naturally was limited to the immediate vicinity of its locality. During the calamitous Thirty Years War, which caused such devastation in Germany, the spring was closed, but in 1681 it was opened again, for the benefit of suffering humanity. About the beginning of the eighteenth century, that important epoch when medical science received a fresh impulse concurrently with the increasing diffusion of human intelligence, the fame of the Nieder Selters water became established in the popular estimation, and from that time to the present day it has maintained its reputation, until now it is in constant demand in every portion of the civilized world. One of the best evidences that can be cited as to its excellent qualities is the fact that it loses none of its efficient properties by transportation to the most distant points, or the most opposite climates. It may seem a little singular

too, that no small part of the high reputation it commands is due to the constant efforts that have been made to flood the market with artificial imitations, which in every instance have proven so vastly inferior to the genuine article that no intelligent invalid requiring its curative benefits will partake of any brand of Nieder-Selters water, excepting that which comes direct from the world-renowned spring, and which bears the official label that attests its genuineness. The most brilliant achievements of constructive science must always fall far short of the productions of nature. Another and more insidious opposition has been encountered in the dishonest effort neighboring rivals have made, with envious persistence, to insinuate upon the public the products of several natural springs to which names have been given imitating that of the Nieder-Selters. This system of substitution, however, has been so thoroughly ventilated that the public is no longer likely to be misled by the transparent device. The medicinal spring whose beneficial qualities are of world-wide fame is now known by everybody to be the Nieder-Selters, and to have no other name or designation whatever.

SHOES.

There is nothing that conduces more to the comfort of every human being than a good easy shoe that fits snugly, looks well, endures fair wear, and that can be bought at a reasonable price. There are many people who have found by bitter experience that getting shoes

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Harcourt & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.



PUBLISHED EVERY SATURDAY.
In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer & Decorator.

Subscription, \$6.00 a Year in Advance.
SAMPLE FREE.

THE BEST ADVANTAGE MEDIUM OF ITS CLASS
PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.
Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY, 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
23 Warren St., New York.

PRINTERS' INK.

A JOURNAL FOR ADVERTISERS.

PRINTERS' INK is just what it purports to be, "a journal for advertisers." It is issued on the first and fifteenth days of each month, and is the representative journal—the trade journal, so to speak—of American advertisers. It tells the intending and inexperienced advertiser in plain, comprehensive articles how, when, and where to advertise; how to write an advertisement; how to display one; what newspapers or other media to use; how much to expend—in fact, discourses on every point that admits of profitable discussion. If you advertise at all, PRINTERS' INK can help you. Perhaps you expend but Ten Dollars a year in advertising; if so, PRINTERS' INK may show you how to obtain double the service you are now getting for one-half the money. A year's subscription costs but One Dollar: a sample copy costs but Five Cents. Advertising is an art practised by many but understood by few. The conductors of PRINTERS' INK understand it thoroughly. Surely their advice, based on an experience of more than twenty-five years, will help you. Address:—



CEO. P. ROWELL & CO'S
Newspaper Advertising Bureau
20 Spruce St., New York.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.
UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, *profusely and handsomely illustrated*, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

made to order and paying high prices does not necessarily insure a good fit or comfort. The writer of this has long since become convinced that he fares better by buying a good quality of ready-made shoe, and one of the reasons for this is that long experience in catering for that trade, large purchases and heavy sales enable such manufacturers to furnish a better average quality at a much lower price. Such a house is that of Packard & Field, successors to Burt & Packard, of Brockton, Mass., whose shoes for men, women and children are for sale by all large dealers in every part of the United States. We would advise our readers, who would like a guaranteed shoe that will give satisfaction, to give the goods of this firm a trial. They will be sure to please.

BROMO-SODA.

I have used effervescing bromo-soda very extensively and can cheerfully recommend it to my professional brethren. It is of great value to those practitioners making a specialty of nervous and mental diseases. The addition of the grain of caffeine hydrobromate to the thirty grains of sodium bromide, I think a most happy idea. I recommend your bromo-soda, because I have used sodium bromide for years instead of the potassium bromide. Sodium bromide is not a foreign salt in his system, is much less depressant, can be used where the heart is extremely weak, and does not impair the integrity of the muscular tissue. Does not cause bad breath, neither does it cause acne, nor impair pharyngeal sensibility. It is much more palatable, and

has the happy faculty of agreeing with the stomach, where the corresponding potassium salt often gives us so much trouble. I find effervescing bromo-soda very valuable in cases superinduced by over-work of a mental kind. In fact, at times when over-worked, I have refreshed myself with a little in water. I use effervescing bromo-soda in dessertspoonful, rather than teaspoonful doses, desiring to spare myself the necessity of repeating. I put this quantity in a glass not quite half full of water, order it drunk while effervescing, and find it to operate as if by magic.

J. K. BAUDUY, M.D., L.L.D.,
Professor of Nervous and Mental Diseases,
Missouri Medical College, St. Louis, Mo.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



Hotter the Weather Bigger the Proof.

As the weather grows warm, the sale of James Pyle's Pearline Washing Compound rapidly increases. This proves that many women recognize the fact that Pearline makes washing and cleaning very much easier than when done with the ordinary means. Proves also that summer clothing, being of delicate texture and color, will not stand the rough usage necessary when washed with soap, and establishes the fact that PEARLINE, in doing away with the rubbing, lessens the wear and tear and fills a very important place. Delightful for bathing in fresh or salt water. Its ingredients

render it harmless to the most delicate skin. Especially during the hot weather it is to your advantage to use Pearline, and only humane to supply your servants with it, and thus lighten their labors; besides you insure much better results.

Beware Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearline, or "the same as Pearline." IT'S FALSE—they are not, and besides are dangerous.
106 Pearline is manufactured only by JAMES PYLE, New York.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price.	Analyst.		Price Including Regular American Price.	Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

AMERICAN AND EUROPEAN PLANS.

When you go to New York, stop at the Sturtevant House, Broadway, cor. 29th Street, near elevated. Moderate prices, central location.—Post.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.



BLAIR'S PILLS

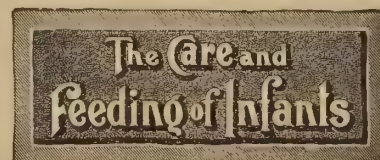
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, COODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

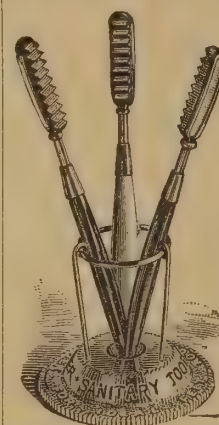
OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.



IF YOU ARE SICK

and cannot raise your head, use the

IDEAL FELT Tooth Polisher

to greatly add to your comfort.

If you are **WELL** and would enjoy life's fullest blessings, use it to increase your health and happiness. If you **live in Society** use it to improve your appearance. If you **live in Solitude** use it to preserve your teeth. If you are **Rich** it will make you richer. If you are **Poor** it will save you money.

WHATEVER YOUR AGE OR CONDITION YOU CANNOT AFFORD TO BE WITHOUT IT.

AT ALL DRUGGISTS.

Its Economy. Holder (imperishable) 35 cents. Polishers only need be renewed. 18 (boxed) 25 cents. Dealers or mail.

HORSEY MFG. CO., UTICA, N. Y.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices. Also, Free-hand Drawing.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

A BOOK THAT EVERY LADY NEEDS.

THE LADIES' GUIDE TO FANCY WORK.

How to make the Home Beautiful at small cost is a subject now uppermost in the mind of every lady of good taste. This book is a complete practical instructor in every description of Ladies' Fancy Work, and the only first-class work of the kind ever published at a low price. It contains nearly 300 illustrations, and the instructions given are so plain and simple that by their aid even a child may make the many beautiful things which the book describes. It gives plain and practical instructions in Drawing, Oil Painting, and making Wax Flowers; likewise all kinds of Fancy Needle Work, Artistic Embroidery, Lace Work, Knitting, Tatting, Crochet and Net Work. It contains designs for Monograms, Initials, Cross Stitch Patterns, Knit Edgings, Embroidered Borders and Corners, Macramé Work, Applique Embroidery, Berlin Work, Java Canvas Work, Tricot and Buriaps, Antique Lace, Beaded Lace, Darned Net Work, Tildies, Lambrequins, Ottomans, Counterpanes, Rugs, Carriage Robes, Brackets, Wall Pockets, Waste Paper Baskets, Work Boxes, Work Baskets, Work Bags, Pen Wipers, Hanging Baskets, Catchalls, Pin Cushions, Footstools, Handkerchief Boxes, Glove Boxes, Card Baskets, Sofa Pillows, Table Covers, Table Scarfs, Screens, Scrap Bags, Hand Bags, Table Mats, Toilet Mats, Lamp Mats, Lamp Shades, Pillow Shams, Pillow Sham Holders, Curtains, Toilet Stands, Picture Frames, Slipper Cases, Letter Cases, Toilet Sets, Clothes Brush Holders, Cigar Boxes, Hassocks, Sachets, Fancy Purses, Slippers, Dressing Gowns, Music Portfolios, Knife Cases, Fans, Flower Baskets, Plant Stands, Flower Pot Covers, Shawls, Dress Trimmings, Window Shades, Feather Work, Spatter Work, Leaf Photographs, and many other things. It is a book that should be in every American household. With it as a guide you may make hundreds of beautiful things for the adornment of your home and for presents to your friends at the most trifling expense, and no employment for ladies is more fascinating and useful. The book will repay its small cost many times over in a very short time. Every lady will be delighted with it. It is a large book of 64 large 3-column pages, with handsome cover, is finely printed, and, as above stated, contains nearly 300 illustrations. It will be sent by mail, post-paid, upon receipt of price, only **Twenty-five Cents**.

INVALUABLE TO EVERY HOUSEWIFE!

THE MODERN COOK-BOOK AND MEDICAL GUIDE.

This is practically two books in one—a perfect cook-book and a perfect medical book—and there is so much in it, and so much care and pains have been taken in its compilation, that we feel perfectly safe in asserting that the Cooking department is fully the equal, in quantity and quality of contents, of any low-priced cook-book published, and the same as to the medical department, herein as compared with any low-priced medical work on the market. It is a complete encyclopaedia of domestic information, and we fully believe that no lady, after having it in the house a short time, would willingly do without it for ten times its cost. The cooking recipes number 627, and include Breakfast Dishes, Soups, Meats and Poultry, Fish, Vegetables, Salads and Relishes, Bread and Rolls, Jellies and Preserves, Puddings and Pies, Fancy Dishes, Cakes, Confectionery, Ice Cream and Summer Drinks. The compilation of this department was superintended by a practical housekeeper, every recipe will be found reliable, and it has been pronounced one of the best, most complete, and practical cook-books published. The Medical Department will be found fully the equal of any doctor book published at one dollar or less. It tells you how to cure, by simple means, available in every home, Malaria, Pneumonia, Poisons (antidotes for), Nervousness, Measles, Rheumatism, Toothache, Wounds, Sprains and Bruises, Weak and Inflamed Eyes, Dust in the Eye, Sore Throat, Scauld Head, Whooping Cough, Neuralgia, Earache, Worms, Warts, Burns and Scalds, Offensive Breath, Bleeding (to stop), Cancer, Consumption, Felons, Dyspepsia, Dysentery, Diphtheria, Diarrhoea, Croup, Corns, Liquor Appetite, Coughs and Colds, Cold in the Head, Catarrh, Scarlet Fever, Nose Bleed, Baldness, Smallpox, Sleeplessness, Ringworm, Chills, Chills, Cholera, Cholera Morbus, Bright's Disease, Convulsions, Mumps, Superfluous Hair (to remove), Hysterics, Colic, Sciatica, Biliousness, Nettle Rash, Typhoid Fever, Ingrowing Toe Nails, Abscess, Stammering, Hemorrhage, Asthma, Hydrophobia, Scrofula, Bronchitis, Lockjaw, Erysipelas, Hoarseness, Chills and Fever, Dropsy, Bunions, Fits, Dandruff, Scurf, Quinsey, Heartburn, Styes, Liver Complaint, Cramps, Corpulence, Sunstroke, Knock-knees, Indigestion, Jaundice, Gout, Prickly Heat, Ulcers, Salt Rheum, Fainting, Boils, Tobacco Habit, Gray Hair (to prevent), Cholera Infantum, Deafness, Stiff Neck, Piles, Choking, Freckles, Pimples, Sunburn, Chapped Hands, and many other ailments. It will save you many dollars annually in doctors' bills and patent medicines. Who can doubt that twenty-five cents is a small sum for such a valuable book as this would be the best and most profitable investment that could possibly be made of so small a sum? **THE MODERN COOK BOOK AND MEDICAL GUIDE** is a large book of 128 pages, neatly bound in colored covers. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

AVOID LITIGATION! BE YOUR OWN LAWYER!

EVERYBODY'S LAW BOOK.

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights, and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic Law, by a prominent member of the New York bar, containing concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Affidavits, Agency, Agreements, Apprentices, Arbitration and Award, Assault and Battery, Assignments, Attachments, Banks, Bills of Exchange, Checks and Promissory Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardian and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warranty, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executors' and Administrators' Accounts, Interest Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value, and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. **EVERYBODY'S LAW BOOK** is a large volume of 128 pages, 12mo, with handsome cover. It will be sent by mail, post-paid, upon receipt of only **Twenty-five Cents**. Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

For School Exhibitions and Public and Private Entertainments.

The Complete Book of Recitations and Dialogues.

This book contains, so far as we know, the best and most complete collection of recitations ever published in a single volume. All the popular recitation books of the day have been consulted and the cream selected, and the result is a mammoth collection of recitations which cannot fail to answer every requirement. There are hundreds of them, and they embrace every kind and character of recitations, adapted to every need, humorous, dramatic and pathetic—from short juvenile pieces for the little boys and girls on Friday afternoons to pretentious dramatic works for the professional elocutionist. We have space for the titles of only a very few of them, as follows: "The Little Joe," "Asleep at the Switch," "The Last Hymn," "The Deadman's Journey," "The Engineer's Story," "Cripple Ben," "Two Loves and a Life," "The Mother-in-Law," "The Old Parson's Story," "Taking Toll," "The Engineer," "The Trump," "Tim's Daisies," "John Darryll's Dream," "Too Late," "The Book-keeper's Dream," "Saving Mother," "Curfew must not Ring To-Night," "The Palmetto and the Pine," "The Polish Boy," "Drafted," "The Blacksmith's Story," "The Burning Prairie," "Guilty or Not Guilty," "The Foreclosure of the Mortgage," "The Clown's Baby," "Bill Mason's Ride," "How we tried to Whip the Teacher," "Driving Home the Cows," "Somebody's Mother," "When the Tide Goes Out," "The Old Farmer's Elegy," "Widder Spriggins' Daughter," "The Light-keeper's Daughter," "How the Parson Broke the Sabbath," "Which Shall it Be?" "Somebody's Darling," etc., etc. In addition to the Mammoth collection of Recitations contained in this book, it also contains a number of fine Dialogues, mostly humorous, among which are: "Marrying a Poetess," "What's in a Name?" "The Train to Mauro," "The Graduates," "The Female Astrologer," "Proposing by Proxy," "Story-Telling," "The Morning Call," etc. Those who have sent for books of this character and been disappointed in them, owing to the meagreness and inferiority of their contents, will be happily surprised in this book, for not only is it the largest collection of Recitations and Dialogues ever sold at a low price, but great care has been taken in the selection of its contents, the aim being to include only the best. It is a splendid book, guaranteed to give satisfaction. **THE COMPLETE BOOK OF RECITATIONS AND DIALOGUES** is a large book of 64 large 3-column pages, with handsome colored cover. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYSTMAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS**FREE.**

TO any one who will send us **One New Subscriber** to the **AMERICAN ANALYST** for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the **AMERICAN ANALYST**. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

RETAIL

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were **MALTINE**, Corby's, Stacey & Co.'s Extract, and Keppier's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

B. H. GRITTENDEN.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain). **MALTINE** with Phosphates, Iron Quinia, and Strychnia.
MALTINE with Alteratives. **MALTINE** Perfrated.
MALTINE with Cod Liver Oil. **MALTINE** with Hypophosphites. **MALTO-YERBINE**.
MALTINE with Peppones. **MALTO-VIBURNIN**.
MALTINE with Pepsin and Pancreatine. **MALTINE** with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis, 'sby 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

34 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The Largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Scars, Pitting, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY
DERMATOLOGIST.

210 West 42d St., New York City, N. Y.
Use Woodbury's Facial Soap. By Mail, 50 cts.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK. WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS.

563 & 565 GREENWICH ST. NEW YORK

CHOICE & DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885

PRESERVED, CANNED & BRANDY-FRUIT, FRUIT-JELLIES, VEGETABLES, TOMATO-CATSUP, SYRUPS & JAMS, SALAD-DRRESSING, BLACKBERRY BRANDY, MINCE-MEAT, PLUM PUDDING, SWEET PICKLES, OLIVES & CAPERS, WINE-JELLIES, MARMALADE, SOUPS, SAUCES &c.

SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

Pure  **LAGER BEER,**

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS

AND
PRIVATE FAMILIES

BY
Beadleston & Woerz

291 W. 10th St. New York.

Orders by Postal Card

promptly attended to.

LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Casa ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA.

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



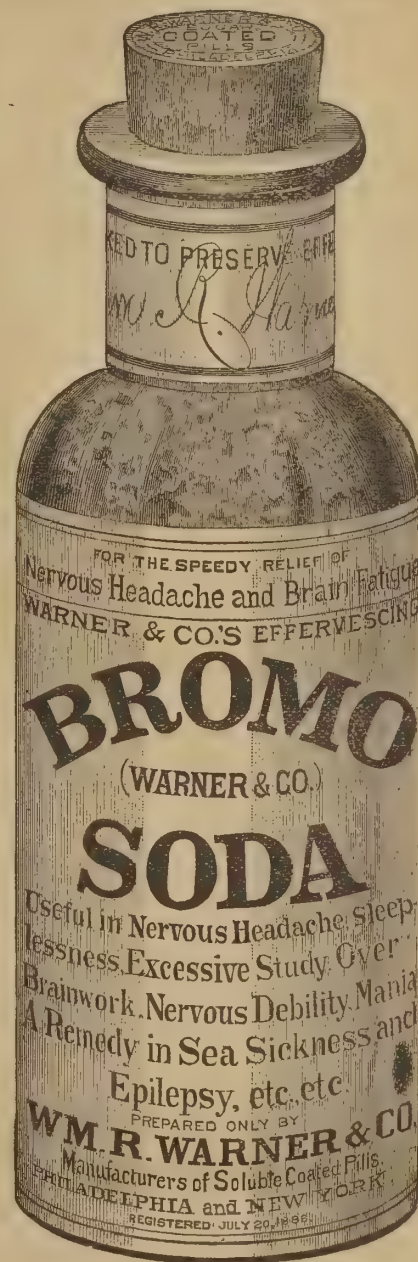
Sura Casa

A CURE

FOR

Sick and Nervous

HEADACHES.

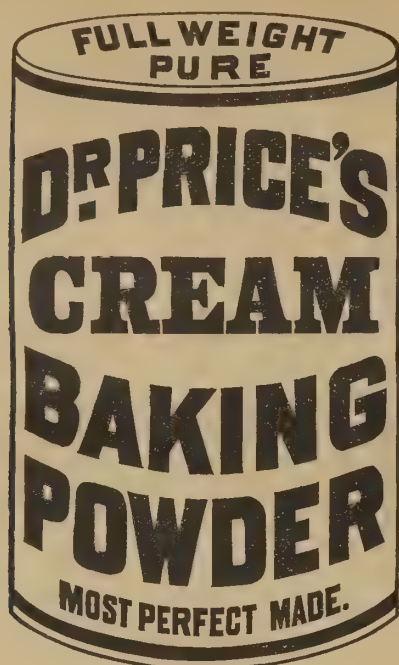


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

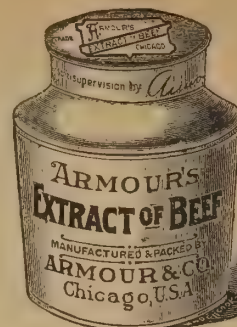
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

**SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.**

**ARMOUR'S
EXTRACT OF BEEF.**

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

**INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,
And strongly endor-
sed by the Medical
Profession for
INVALID'S BEEF TEA**



[FLUID.]

COLDEN'S
LIQUID
BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 31.

NEW YORK, THURSDAY, AUGUST 1, 1889.

WHOLE No. 127.

American Analyst, PUBLISHED EVERY THURSDAY.

Subscription, - - - - - \$1 per year.
Single Copies, - - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Domestic Dietetics.....	364
Editorials.....	361
The Cigarette Doomed; Adulteration of Drugs; New Meat Preservative; A Hint to the Health Department; Possibilities of Irrigation; The Paris Exposition; A Dismal Prospect.	
Metropolitan Mortality.....	363
Nutmegs.....	362
Pachydermatous Toughness.....	364
Sponges.....	363
Tobacco Smoking.....	363

THE CIGARETTE DOOMED.

Observation in public places gives satisfactory evidence that the use of cigarettes is rapidly on the decline. Whether this is due to the stringent laws passed in many of the States against selling them to minors, or that smokers have come to their senses and have taken warning from their own experience and the unanimous condemnation of smoking cigarettes by the medical profession, or whether the evil practice has begun to be looked upon as a discreditable vice to be only practiced in secret, we know not; but it is certain that, as compared with the past, very few cigarettes are now smoked in public. Cigar dealers say that the sales of cigarettes have fallen off enormously. The manufacturers of these noxious things have been compelled to advertise largely to prevent the entire destruction of their business, and about the only people who can now be seen smoking the paper abominations are a few moon-faced juveniles who imagine that cigarette smoking gives them a literary aspect, or who ambitiously aim at appearing manly and graceful while poisoning the atmosphere about them, or blowing the offensive smoke through the windows of horse-cars until re-

buked by the conductors. Employers and business men generally have arraigned themselves in opposition to those who persist in the objectionable practice, and young ladies have learned to understand that the real reason why their young men smoke cigarettes is that they can smoke twenty of them, vile though they are, for the price of a very cheap cigar. It will be well for our youth when the habit becomes wholly extinct. Dr. William L. Dudley, Professor of Chemistry in the Vanderbilt University, gives the results of recent careful analytical experiments made by him in his laboratory with the smoke of an ordinary cigarette. The tests were thoroughly scientific and conclusive. The fact was demonstrated beyond the chance of doubt or question that carbonic oxide is the chief constituent of cigarette smoke, if not all tobacco smoke, and that its inhalation into the air passages and lungs must, of necessity, be exceedingly deleterious. Prof. Dudley refers to published assertions that the adulteration of tobacco with opium and flavoring drugs, and the alleged presence of arsenic in the paper, are the chief causes of the evil effects of cigarette smoking, but pronounces them unsatisfactory and insufficient as explanations. His chemical tests, he insists, have demonstrated positively the actual cause of the mischief, namely, the cigarette smoker's absorption of the carbonic oxide and other gases, causing deoxidation of the blood, and thereby impairing its power to build up the wasting tissues of the body. The cigarette habit has of late years become very common in this country. It is one of those many European importations which do our people more harm than good. Many of our young men, and some of them are neither young nor inexperienced, are literally burning out of themselves the best element of their manhood by sucking into their systems the poison of physical and mental degeneracy through the filthy cigarette. Cigar smoking and pipe smoking are bad enough and pernicious enough in all conscience, but cigarette smoking is absolutely suicidal.

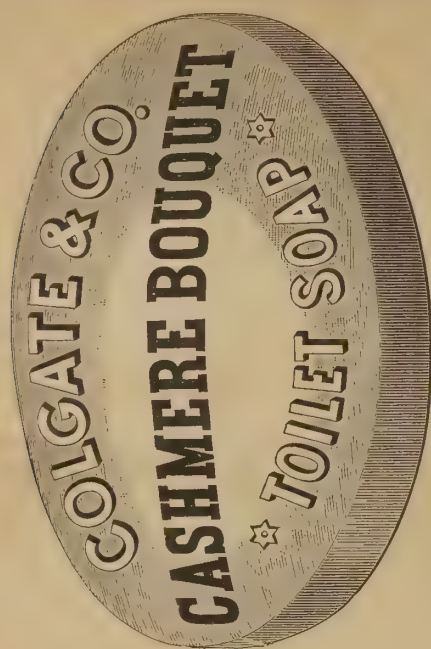
ADULTERATION OF DRUGS.

The adulteration of food is a subject to which steady attention is paid by scientists; pages are devoted to it in our magazines, the press generally is studying the matter, while practically all men are learning to regard some of the food-products they daily consume with a certain amount of suspicion. The adulteration of medicinal products is a matter of kindred importance, and the regret expressed at its prevalence, by the *Inter-colonial Journal*, is well based. It is indeed "a matter affecting most seriously the reputation of physicians, and, a more important consideration, the welfare of the patients they care for." And yet a mere spasmodic voice is raised now and then in respect thereto, among those to whom the subject is of paramount importance. So feeble is this voice that its preaching reaches but a few, and those few are apt to shake their heads, wonder that there is such sinfulness in this world, and go on in the old tenor of their ways, prescribing sub-

stances which their patients may or may not receive, wondering that they obtain results at variance with their expectations, and often, in the case of new remedies, becoming persuaded that all they have read and heard about the new drug or material was utterly unreliable. It is a great pity that every medical man does not pay individual attention to the matter, ascertaining personally, at whatever cost of time and trouble, that such substances as he orders for his patients are not only pure, but also have not undergone such changes as to render them ineffective. The circle in which we are turning is a vicious one. Expensive substances are placed on the market and retailed at a price corresponding with their first cost, and at once those black sheep which exist in every trade and profession, and from whom the pharmaceutical profession is certainly not entirely exempt, seek to augment their profits by the familiar and deplorable methods of substitution and adulteration. Manufacturers of staple products, entering the list with reliable articles which they have been at great pains to originate and place before the profession, are at once hampered in their efforts and robbed of their just reward by other manufacturers who have had none of the expense of original investigation, and who place on the market articles of lower quality, hence of far less intrinsic value, at a price which tempts the retailers to substitute them for the more expensive products, or to recommend them as being "just as good." Many physicians are compelled to keep on hand and supply to their patients products which they would hesitate to prescribe, not knowing how their orders will be filled.

NEW MEAT PRESERVATIVE.

M. Jules Laroche, a teacher at Labouhere, France, has recently informed the French Minister of War that after twenty years of effort he has succeeded in inventing a valuable process for preserving meat. He declares that his method is simple and cheap and that by it the meat is kept wholesome under all conditions. He says: "By my process twenty workmen can preserve the carcasses of 1,000 oxen in twenty-four hours at an expense of 600 francs. The meat will then remain in a state of perfect preservation for six or eight months, and, in some cases, even longer; it will retain its taste and flavor and all its nutritive qualities. It may be placed anywhere, in the sun, in the rain, in the snow, may be heaped up together or kept separately, and will continue in a state of perfect preservation; whereas, meat which has been preserved by a process of refrigeration needs to be kept cold in order to retain its excellence." The Minister of War has replied by asking the inventor to make his process known in order that it might be submitted to the opinion of expert chemists. This M. Laroche declines to do, but he offers to submit the result of his process to such tests as may seem conclusive to the Department. Thus far no steps have been taken by the authorities toward testing the invention, but those who profess to know vouch for it as a discovery of the highest importance.



A HINT TO THE HEALTH DEPARTMENT.

A vile smell, aside from the nausea and unpleasant effect it produces, is always due to the decomposition of animal or vegetable matter, and therefore renders the contaminated atmosphere unfit for breathing. The Health Department of this city, under its present head, has tried to do its duty by our citizens, and we wish to give its active president a new chance to do a little more duty, and thereby earn the appreciation and gratitude of his fellow citizens. Every morning business men and women, on their way to their several stores and shops, are nauseated in front of almost every eating house and butcher shop in the city by wagons loaded with remnants of meat, fat and bones, which, while loading, are allowed to stand uncovered. As the contents of these wagons are ostensibly not to be used for human or animal food, why could we not be relieved from this stench by compelling the drivers of such vehicles to deodorize and disinfect the contents? Here, Mr. Wilson, is a chance for you.

POSSIBILITIES OF IRRIGATION.

From the western Kansas and Nebraska line to the Pacific there stretches a vast region of 1,100,000 square miles, broken into mountains, valleys and arid plains. It was long supposed that very little of that country would be available for husbandry, but the introduction of irrigation caused a great change. For many years this species of fertilization was confined to the private efforts of land owners in California and New Mexico, but under its fructifying influence the southern part of the former has become a vast garden of flowers and orange trees. It has been tried in Arizona, Colorado and Utah, and wherever the life-giving streams, have been led the result has equalled all the hopes of the experimenters. Probably New Mexico, Arizona, Nevada, Colorado, Utah, Wyoming, Montana and Idaho will yet become great agricultural States. The United States Government is turning its serious attention to the question of irrigation in those regions, and promises to make extensive topographic surveys. Americans have a talent for engineering, and they could ask no finer opportunity for the display of their talents than in solving the problem of irrigation in the land including and beyond the Rockies. That immense regions can be turned into an endless succession of fertile fields by this method, the history of ancient cities, whose ruins are now surrounded by deserts, conclusively proves to us. The plan proposed by Major J. W. Powell, director of the Geological Survey Bureau, for

continuing the irrigation survey of arid lands has met the official approval of Secretary Noble, and a quarter of a million dollars has been appropriated for the work which is to be prosecuted in Montana, Colorado, New Mexico, Idaho, Nevada, Arizona and California. If a general system of irrigation in the West furnishes the fine results hoped, it will be a great thing for the entire country, since it will add fully fifty per cent. to our arable land, and will nourish a hardy and active population.

THE PARIS EXPOSITION.

The arrangements for paying the price of admission to the Paris exhibition are somewhat peculiar. All tickets issued are of the value of one franc or 20 cents each. On week days, from 8 to 10 A. M., two separate tickets must be presented to obtain the right of entrance. From 10 A. M. until 6 P. M., a single ticket is sufficient. After 6 P. M., two tickets are necessary. On Sundays the same arrangement for morning visits is adopted, but from 10 A. M. a single ticket will serve. The regulation is fair, as it is possible to spend twelve hours in the exhibition and enjoy the evening fetes for 20 cents. Few object to paying an extra franc to have the advantage of seeing the objects when the galleries are less crowded.

A DISMAL PROSPECT.

The fight for local inspection will be more difficult next winter than it was last year, because of the blunders which must be explained away.—*Butcher's Advocate*, July 17.

That's refreshing. The whole thing was a blunder of the first magnitude, and the courts are "explaining it away" so rapidly that by the time the Legislatures convene again there will be nothing left of the revolutionary fraud excepting its unsavory memory. The real fight in the matter is that which the retail butchers are waging against the Federal Constitution.

NUTMEGS.

WHERE AND HOW THEY ARE RAISED AND PREPARED FOR MARKET.

An address on spices was delivered before the Grocers' Association, of Boston, recently by Mr. W. D. Bennett, of this city, from which we condense the following interesting particulars concerning the nutmeg:

Nutmegs grow on small trees resembling pear trees, cut down to about twenty feet in height. The flowers are very much like those of the lily of the valley; they are pale yellow and very fragrant. The leaves stand alternately on short foot-stalks; are oblong, pointed, entire bright green, and somewhat glossy on their upper surface, whitish beneath and of an aromatic taste. The fruit, which appears on the tree mingled with the flowers, is round or oval, of the size of a small peach, smooth, at first pale green, but yellow when ripe, and marked with a longitudinal furrow. The external covering, which is at first thick and fleshy and abounds in an austere astringent juice, afterwards becomes dry and leathery, and, separating into two valves from the apex, discloses a scarlet net-like membrane commonly called mace, closely investing a thin brown shining shell, which contains the kernel or nutmeg. The nutmeg tree is a native of the Moluccas and other neighboring islands, and abounds especially in that small cluster distinguished by the name of Banda, whence the chief supplies of nutmegs were long derived. But the plant is now cultivated in Sumatra, Java, Singapore, Penang, Ceylon, and other parts of the East Indies, and has been introduced into the Isles of France, Bourbon, Cayenne, and several of the West India islands. A fine tree in Jamaica has

over four thousand nutmegs on it yearly. The tree begins to bear when ten years old, and goes on improving for a hundred years. The fruit is gathered two or three times a year. Three sorts of nutmegs are distinguished—namely, the male or barren, the royal, and the queen, the last of which is small and round. The nutmeg is propagated from fresh seeds (nutmeg), and these vary in size and shape, just as apples and pears do when raised from seeds. There can hardly be a more profitable crop than the nutmeg at present prices. The annual yield of a good tree of sixteen years' growth is about ten pounds, covering about five hundred square feet surface, which, at an average of forty cents per pound, gives a value of produce per acre per annum of over three hundred dollars, including mace. The fruit of the nutmeg takes nine months to mature, and one hundred pounds of nutmeg produce one pound of mace. A good nutmeg should be round, large and heavy, of a drab or light-brown color, and finely marbled in the cross section. Its virtues are extracted by alcohol and ether. Eighteen ounces of good sound nutmeg will yield four ounces of oil. The volatile oil is obtained by distillation with water. By pressure with heat an oily matter is procured from the kernels, which becomes solid on cooling, and is commonly, though erroneously, called mace. Nutmegs have been punctured and boiled in order to extract their essential oil, and the orifice afterwards closed so carefully as not to be discoverable unless by breaking the kernel. The fraud may be detected by their lightness. The Dutch were formerly said to heat them in a stove in order to deprive them of the power of germinating, and thus prevent the propagation of the tree. The Dutch used to have all the nutmeg trade, as they owned the Banda Islands, and conquered the other traders, and destroyed the trees to keep the price up. They once burned over three piles of nutmegs, each of which was as large as a church. Nature did not sympathize with such meanness. The nutmeg pigeon, found in all India islands, did for the world what the Dutch had determined should not be done—carried these nuts, which are their food, into all the surrounding countries, trees grew again, and the world had the benefit. The practice of liming nutmegs has been sadly abused; it is used principally for making slightly and marketable those nutmegs which at one time would have been altogether rejected. The long or wild nutmeg is distinguished from that just described by its much greater length, the absence of the dark-brown veins, and its comparatively feeble odor and disagreeable taste. It has been called male, wild or long nutmeg, the other being designated as the female, or cultivated nutmeg. The concrete or expressed oil of nutmeg, commonly called oil of mace, is obtained by bruising nutmegs, exposing them in a bag to steam, and then compressing them slightly between heated plates. A liquid oil flows out which becomes solid when it cools. Nutmegs are said to yield from ten to twelve per cent. of this oil. The best is imported from the East Indies in stout jars; it is solid, soft, unctuous to the touch, of a yellowish or orange yellow color, more or less mottled, with the odor and taste of nutmeg. An artificial preparation is sometimes made from genuine oil; it is made by mixing fatty matters, such as suet, palm oil, wax, etc., adding some coloring substance and giving flavor to the mixture by the volatile oil. Nutmeg unites with the medicinal properties of the ordinary aromatics considerable narcotic power. In the quantity of two or three drachms it has been known to produce stupor and delirium; and dangerous, if not fatal, consequences are said to have followed its use in India. It is employed to cover the taste or correct the operations of other medicines, but more frequently as an agreeable addition to farinaceous articles of diet, and to various kinds of drink, in case of languid appetite and delicate stomach. Nutmegs imported to this country are generally limed and packed in cases of piculs and half piculs (a picul being 133½ lbs.), and the mace in half picul cases, and packed very tightly; but the finest and brightest kind is usually shipped to Europe.

SPONGES.

MICROSCOPIC ANATOMY OF SALT WATER SPONGES.

Taking the *Halichondria panicea* as a familiar illustration, hardly describes the anatomy. The surface is smooth, rising into low elevations, which are surmounted by crater-like openings. If the specimen is quite fresh and healthy, the existence of strong currents streaming out of these openings, or "oscula," may be demonstrated by placing a drop of carmine dissolved in sea water in the neighborhood of an osculum, when the upstreaming current will carry the color in, some of the particles being drawn to the surface of the sponge, others penetrating through microscopical apertures or pores, causing a distinct coloration. Under a lens the surface of the sponge is seen to consist of a thin membrane, "dermal membrane," supported by a reticulum of spicules, which, under a low power of the microscope, appears as a network of interlacing bundles of spicules embedded in a gelatinous substance, the sponge-flesh, and lie more or less parallel to the surface of the animal. The spicules of the rest of the sponge are also gathered into interlacing bundles, but lie in all planes. Each of these spicules, which may be straight or slightly curved, has the form of a delicate, elongated, double-pointed rod, which in section appears rounded, with its sides parallel throughout the greater part of their extent. The sponge-flesh will be seen to be pierced by the pores mentioned above. The oscula will be seen in sections to be the orifices of large tubes, into which smaller canals open, the lumen of the large tube being eventually lost in the smaller ones. The pores open into spaces beneath the dermal membrane. The current enters through the pores, passes through a number of delicate canals into larger, and finally into the largest, emerging as exhalent currents of the oscular. These currents are maintained by the lashing movements of flagella which line the walls of the enlargements mentioned.

METROPOLITAN MORTALITY.

MORTUARY STATISTICS OF THE CITY OF NEW YORK FOR 1888.

A preliminary report in relation to the mortality of the City for the year 1888 has just been presented to the Board of Health by Dr. Roger S. Tracy, the assistant sanitary superintendent; and the deductions made in it, are somewhat remarkable. The sanitary police took a census of the tenement-house population during the year, which includes all the houses that are more or less constantly under the supervision of the board of health, but not the better class of apartment houses. The entire population included in this census was 1,093,701 persons, among whom there were 24,842 deaths, while the total number of deaths in the city was 40,175. The highest death-rate, 26.60 per thousand of the population, is in the district south of 14th Street and west of Broadway. The next highest, 23.52, is in the district west of Fifth Avenue and between 14th and 59th Streets, in which are situated a large proportion of the residences of the wealthiest citizens; and the third highest is the district east of Broadway and south of 14th Street, the most densely populated part of the city, and containing almost exclusively a tenement-house population. The general tenement death-rate was 22.71, while the general death-rate of the city in 1888 was 26.33, and this fact would seem to indicate that the population of this city has been underestimated and the quoted death-rate too high, or that all the deaths belonging in tenement-houses had not been credited to them, or else that the death-rate is actually lower for the tenement-house population than for the rest of the city, which would certainly seem most extraordinary. It might be that deaths that should have been credited to the tenement-houses have not been so credited; but of the total number of deaths in institutions, 7,774, the

former place of residence of the individuals was ascertained in 3,444, and these deaths have all been credited to the houses in which they had lived. In all the districts the death-rate of persons five years of age and over, as a rule, decreases as the number of tenants increases; while the death-rate of children under five years of age increases up to a certain point, diminishing when there are more than eighty tenants to a house. The general death-rate is highest in houses containing from sixty to eighty tenants; and this is caused by the higher death-rate among the children, which reaches in these houses 114.04 per 1,000 living. The results of the investigations are summed up by Dr. Tracy as follows: "The death-rate in tenement-houses is less than the general death-rate of the city. The death-rate in large tenement-houses is less than in the smaller ones. While diarrhoeal diseases and diphtheria show a greater death-rate in the larger houses, phthisis and pneumonia show comparatively little difference; that difference, however, being in favor of the larger houses. The greatest general death-rate among persons over five years of age, the next to the highest death-rate from diarrhoeal diseases and pneumonia, and markedly the highest from phthisis, are in the district south of 14th Street and west of Broadway. The excessive mortality in this part of the city is probably connected with the great number of old houses and the dampness of the soil. These results are much at variance with what was expected. It seems to be sufficiently established that people do not live under such extremely bad sanitary conditions in the tenements as they have been supposed to."

TOBACCO SMOKING.

WHERE DID THE HABIT FIRST SECURE ITS HOLD?

It has generally been supposed, says the *New York Sun*, that the uses of tobacco were not known outside of America and some of its islands before the discovery of the western world. While convincing proof to the contrary has not been obtained, the explorations of recent years have raised the question whether the tobacco habit in the fifteenth century was not more widely prevalent than has been believed. It is learned that among many of the Pacific islands the natives used tobacco long before they were visited by white men, and there is no tradition among them of a time when their fathers did not understand the culture and uses of the tobacco plant. Throughout inner Africa also the use of tobacco is universally known and there is every reason to believe that some of the varieties of nicotiana in common use are indigenous. For all we know to the contrary the savages of Central Africa, who were quite unknown at the time Columbus discovered America, were puffing their pipes long before he made himself famous. There is no doubt that the discovery of American tobacco had considerable influence upon the tobacco habit in Africa, if it did not actually introduce it. Our common Virginia tobacco was carried far up the Nile to equatorial Africa long before white men penetrated that region. Schweinfurth was the first to discover that this imported plant is in use among several of the Bahr-el-Ghasal and Welle-Makua tribes, and it is a curious fact that the savages who use this exotic have no native name for it. Each tribe has its own name for the native variety of tobacco, but the appellations the Africans apply to the imported plant show unmistakably that they are derived, one and all from the word tobacco. So far as this large region at least, is indebted to America for an improved quality of the weed, the obligation seems to be acknowledged in the names given to the article. But the indigenous varieties are far more prevalent, and are largely used even where Virginia tobacco is cultivated. And since the foreign source of the exotic has been so easily discovered in the language of the people, it seems not unreasonable to suppose that in the greater regions to which it has not extended, and where no foreign in-

fluence is discernible, the smoking habit had an independent origin. It is not at all certain that the white man has a prior claim even upon the invention of the cigar. In all parts of New Guinea, the largest island in the world, that have yet been visited, tobacco is cultivated, and in some of these districts the humble pipe contributes nothing to the enjoyment of the weed and is not even known. Dr. M.— saw natives with crude looking cigars in their mouths who had never seen a white man before and thought he had dropped from the sky. Dr. Finsch, who some years ago explored the coast for hundreds of miles, says the natives of the whole northeast coast of New Guinea, though inveterate smokers, had never heard of a pipe and returned those which he gave them as articles for which they had no use. He says they roll the partly dried leaves into a rude cigar, and not being blessed with Havana wrappers, they tie around their cigar a large green leaf from a tree. Doubtless the vilest leaves sold on the Bowery are superior to these products of Papuan ingenuity, which hold fire so poorly that a live coal is always at hand to revivify them. But they suit the native taste, and the people seem to regard those who draw tobacco-smoke through a pipe-stem as belonging to an inferior order of human beings.

FEMALE STOCK GROWERS.—Colorado is said to have 1,000 women stock growers.

GREAT MORTALITY.—The news comes from Madras that that portion of the world is ravaged both by famine and cholera. The Province of Ganjam is where the epidemic has reached its greatest intensity. The official figures put the deaths at one thousand per week from cholera.

TO CLEANSE FILES.—To cleanse and sharpen a file which has become clogged, a mechanic recommends removing grease by means of a solution of potash and water, and then dripping in a solution of 8 parts water, 8 parts sulphuric acid and one part nitric acid. The files should afterwards be washed, dried and oiled.

STEEL HOOPS.—A corrugated steel hoop has been invented which is said to be elastic and firm, hugging a package tightly. Four steel hoops will take the place of ten wooden hoops on a flour barrel. They are cheaply produced by the aid of electricity, a hoop being welded in two seconds. They are made at Worcester, Mass.

OVER-EDUCATION.—During a discussion over the educational budget in the Belgian Senate recently, a member attracted attention to the constant increase in the number of students at the universities—an increase which showed, in his opinion, that the examinations were too easy, and which threatened to overload the liberal professions.

CHOKING THE EYES.—Professor Dr. Foster, director of the University Ophthalmic Clinique at Breslau, has recently drawn the attention of parents and pedagogues to what he believes is often the cause of shortsightedness in the young—namely, that they are allowed to wear collars which are too tight for them. In three hundred cases that had come under his notice, the patients were suffering from a chronic complaint brought on by a disturbance in the regular and normal flow of blood, caused by the wearing of collars which were not large enough.

ELECTRICITY AND LIGHT.—Dr. Moser (*Eder's Jahrbuch für Photographie*) draws attention to the following curious phenomena: The leaves of an electroscope are caused to diverge by charging with, say, 150 cells. On allowing a ray of direct sunlight to fall on the instrument, the divergence is increased, and it returns to its original amount when the light is cut off. A common match (sulphur with phosphorous tip) will glow in the dark when brought close to a charged body such as the cover of an electrophorus. The mercury in a capillary electrometer falls when a ray of sunshine falls on it, just as it does when connected to the zinc of a battery. The effect is distinctly electrical, not thermal, as it vanishes when the upper and lower mercury columns are short-circuited by a wire.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

August.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, crabs, clams, flounder, halibut, herring, lobster, mackerel, mussels, porgie, prawn, salmon, turtle, trout, sturgeon, whiting, weak-fish, rockfish.

VEGETABLES.—Beans, beets, cucumbers, cabbage, carrots, cauliflower, corn, egg-plant, lettuce, onions, parsley, parsnips, potatoes, squash, shallots, spinach, turnips, radish, rhubarb, tomatoes.

FRUITS.—Cherries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple, grapes, plums.

PRACTICAL RECIPES.

CREAM PASTE FOR MEAT PIES.—Three cupfuls of white and Graham flour mixed in equal parts, one cupful of sweet cream, two teaspoonfuls baking powder. Keep the ingredients in a cold place until ready for use. Take out a little of the flour for rolling the paste, and to the rest add the baking powder and a little salt, sifting it with the flour three or four times. Wet with the cream, stirring lightly until it can be rolled out, but avoid much kneading. As soon as the paste will hold together roll it out.

VENISON SOUP.—Take four pounds of freshly-killed venison cut off from the bones, and one pound of ham in small slices. Add an onion minced, and black pepper to your taste. Put only as much water as will cover it, and stew it gently for an hour, keeping the pot closely covered. Skim it well, and pour in a quart of boiling water. Add a head of celery cut small, and three blades of mace. Boil it gently two hours and a half; then put in quarter of a pound of butter, cut small and rolled in flour, and half a pint of Port or Madeira. Let it boil quarter of an hour, and send it to the table with the meat in it.

MUTTON KIDNEYS BROILED.—Skin and split, without parting asunder; skewer them through the outer edge and keep them flat; lay the opened sides first to the fire, which should be clear and brisk; in four minutes turn them, sprinkle with salt and cayenne, and when done, which will be in three minutes afterwards, take them from the fire, put a piece of butter inside them, squeeze some lemon juice over them, and serve as hot as possible.

RICE MUFFINS.—One pint sifted flour, two heaping teaspoonfuls Horsford's baking powder, and a little salt. Thoroughly mix together; then add one cupful cold boiled rice, two eggs, one tablespoonful butter and enough sweet milk to make a thick batter. Bake immediately.

CANNED OYSTERS.—Choose large fresh oysters, just from the shell if possible. Split and toast Boston crackers, or pieces of stale bread cut round to fit the bottom of "patty pans." Put the liquor from the oysters in a stew-pan on the stove, boil and skim, season with pepper, salt and butter. Put the crackers or toasted bread into the "patty pans," moisten with the hot liquor, fill the pans with the oysters, putting on each oyster as it is placed in the pan a bit of butter, a little salt and pepper, and, if you choose, a drop of lemon juice. Bake fifteen minutes in a very hot oven, set the "patty pans" on plates and serve.

CURRY OF TRIPE.—Boil two pounds of double tripe until every part of it is very tender; cut it into slips. Peel two large onions and cut them into slices, and stew them until brown with three tablespoonfuls of fresh butter; stir frequently, and mix in a heaping tablespoonful of curry powder. Add a cup of milk and the tripe. Stew altogether for an hour or so, skimming carefully. Serve in a deep dish with a dish of rice.

COOKED MAYONNAISE DRESSING.—Put four tablespoonfuls of vinegar in an earthen bowl and let it come to a boil; add to it the well-beaten yolks of four eggs. Set in a pan of boiling water and let cook until stiff, stirring well. Take from fire; add four ounces of butter, and stir until cold and well mixed; season with pepper, salt, mustard, etc., and thin with sweet cream as much as desired—or oil may be used instead of the cream. If the dressing is not perfectly smooth, rub it through a hair sieve.

PACHYDERMATOUS TOUGHNESS.

THREE YEARS REQUIRED FOR THE TANNING OF AN ELEPHANT'S HIDE.

As an example of the tannage of huge hides, the following is a detailed account of the process, step by step, of tanning the skin of an elephant, weight about 8 cwt., or 896 lbs., and having a thickness of 1½ inches. The skin had been felled in a tank of pure water in order to make it green again; every day it was felled for an hour with the bickern, and every other day it was struck with the iron. After soaking for ten days in pure water it was put for ten days into water to the degree of 4 per cent., and soaked again for twenty days in pure water. The skin had thus been soaking forty days, and nevertheless it had only just again reached the green stage. The head and feet portions weighing about 1 cwt., were then removed and the skin taken to the unhairing stove. After being there for the space of a day it was placed in a pit containing lime, to which had been added some caustic soda and a little soda of sodium in the following proportions: Water, 1,000 parts; slack lime, 25 parts; caustic soda, 3 parts, and sulphur of sodium, 2 parts. After remaining two days in this bath the skin was rinsed in pure water at 20 degrees of temperature, then remitted to the stove for a day and replaced in the pit. After this double operation had been repeated three times the skin was ready for depilation. This operation took nearly a day to perform, and about 27 lbs. weight of hair was removed. Another day was spent in the fleshing and trimming, and by this time the hide had lost 30 per cent. of its weight. The operations of dressing lasted two months. They were carried on in absolutely the same way as in the case of an ox hide, with only this difference—that each operation took treble the amount of time. The skin was laid in the tan-pit with ox hides, being placed in the middle; six powderings were given—two firsts, two seconds and two thirds. On the whole, the tanning of the hide took 1,066 days, or three years to complete, the time being divided as follows: Re-greening, 40 days; river work, 16 days; dressing, 50 days; repeats, 60 days; first pit (double), 200 days; second pit (double), 300 days; third pit (double), 400 days; total, 1,066 days.

HUMANITY'S GROWTH.—The human race is increasing 30,000,000 yearly.

HAIR LOTION.—A solution of chloral hydrate, five grains to the ounce of water, will clear the hair of dandruff, prevent its falling out from that cause. It is also claimed that partial baldness may be cured by this means.

IVY POISONING.—The plant, *Grindelia robusta*, bruised and applied as a cataplasm, is said to relieve the pain, and cure the affection in poisoning by the ivy oak. A strong decoction is almost equally efficacious, locally.

TREATMENT OF CORNS.—Dr. C. McDermott writes to the *British Medical Journal* that a saturated solution of salicylic acid in flexible collodion is an excellent remedy for corns. The corns should be painted twice a day. It takes about twelve days for their complete removal.

IRON RAILS.—There should be much encouragement for American steel rail-makers in the fact that there are nearly eighty thousand miles of iron rails to be taken up and relaid with steel rails. The iron rails are rapidly wearing out, and it is only a question of time when they will be taken up.

OUR BOUNDARIES.—The most eastern point of the United States is Quoddy Head, Me.; the most northern point is Point Barrows, Alaska; the most western is Alton Island, and the most southern Key West. Working from these four points, many will be surprised when they locate the geographical centre of the United States.

SURE SIGN.—*Citizen* (to physician)—I say, doctor, do you know anything about Brown's financial standing in the community. Is he prompt?

Physician—Well, all I know is that I have been his family physician for seven years, and he's always paid me; and a man who will pay his doctor's bill will pay anything.—*N. Y. Sun.*

PREVENTING TUBERCULOSIS.—The German war minister has decided that the chest of every soldier shall be examined once a month. If the chest does not reach a certain breadth, and does not develop with drill and athletic exercises, the soldier will be disqualified, and regarded as predisposed to phthisis, and, moreover, likely to infect his comrades.

THE LUCKY ONES.—It is estimated that there are at least 5 American citizens who are worth \$100,000,000 each; 5 worth \$50,000,000 each; 10 worth \$30,000,000 each; 10 worth \$20,000,000 each; 50 worth \$10,000,000 each; 100 worth \$5,000,000 each; 200 worth \$3,000,000 each; \$500 worth \$1,000,000 each, and 1,000 worth \$500,000 each.

SHOOTING FLIES.—A Louisville druggist kills the swarms of flies about his soda fountain in a novel way. He discovered that insect powder is of almost as rapid combustion as gunpowder, though the flame lives several seconds. By a further investigation he discovered that a portion of the powder, thrown from the bellows through the flame of a lighted match held six inches away, produced the required flame, and was capable of destroying flies by the million. He therefore puts out some bait for them every morning. When they have collected in sufficient numbers he gets his powder and match, and the work of destruction is sure and swift. No guilty fly escapes the scorching of the wings. By this means all the flies in the store can be destroyed in a few minutes.

THE SECRET OF THE SEA.

From time immemorial the sea has been regarded a source of health. Long before the time of Christ wealthy invalids from inland cities sought its shores to regain the strength and life they could not find at home. Physicians, from Esculapius down to Willard Parker, have ever advised their patients to utilize its benefit, whether by ocean voyage, living in coast resorts, crossing from continent to continent, or bathing in some sacred gulf, it mattered not. The virtue of the sea, in this regard, has been more and more appreciated with the flight of years. Of this our own sea-board affords abundant evidence. From Maine to Florida, upon the Atlantic coast, and from Vancouver's Island to Lower California, on the Pacific, are long lines of summer and winter resorts where millions flock to recuperate and grow strong. Many were the theories advanced to explain the healthfulness of sea air and sea water. Most of these to-day, in the broad light of modern science, seem puerile and even ludicrous. Classical scholars declared that Hygeia, the Goddess of Health, was a blood relation of Neptune, the great ocean divinity. Astrologers preached that the ocean was influ-

enced by the moon, especially when in the celestial house of health and strength. Alchemists taught that the sea contained the secret elements of life, and that in fish and seaweed, ocean breezes and salt water lay the ingredients of the fountain of immortal youth. The force of these theories can be easily seen by anyone who will take the trouble to read the prolix medical authorities of the past. Everywhere he will find a blind idolatry of the sea and its numberless products. Despite science this still exists to-day. People still call fish "brain food." Byron alludes to oysters as "amatory food." Consumptives consume cod-liver oil in vast quantities, and the Irish and Scandinavians use Irish moss as an anti-scorbutic and febrifuge. Beneath all this is a substratum of truth which is made manifest by chemical science. In the sea and its products is a minute quantity of iodine which appears in its most benignant form, iodide of potassium. In a diffused state it forms part of every waft of air that blows across the ocean, and in larger quantity it enters every fish and creeping thing that inhabits the great waters of the earth. Its action upon the human system is simplicity itself. It merely stimulates the secretive functions and, in all probability, exercises a tonic influence upon the pneumogastric system. In doing this it has no equal and no superior. In expelling from the body injurious and poisonous elements and compounds, such as mercury, arsenic, antimony, lead, zinc and silver, it stands alone. These disease and death-producing substances are terribly unlike those of the vegetable kingdom. Once introduced into the human organization they remain working evil until expurged. Workmen in white lead works, miners in the mercury deposits of Almaden and New Almaden, manufacturers of zinc, paints and founders in type metal and other antimonial alloys, all suffer from painful, and even loathsome complaints, produced by these maleficent metals. The poison, once in, remains, and the consequent illness continues indefinitely. In the infancy of medicine these disorders were considered incurable, and the luckless victim suffered until death put an end to all. The discovery of the power of iodide of potassium worked a pathological revolution. It enabled the physician to effect cures before undreamed of, and marked a new period in the history of the curative art. To-day iodide of potassium is a standard remedy in every school of medicine. Its use has been developed to a marked extent. When formerly it was employed chiefly to expel metallic and mineral poisons from the constitution, it is now used to drive out all impurities from the body. This development is due mainly to the efforts of Dr. Ayer in his experimentation upon the manufacture of an ideal sarsaparilla. Years ago he found that the famous Honduras product effected its best results only when combined with other vegetable principles, and with the iodide

of potassium. The success of Ayer's Sarsaparilla is largely due to this fact. While the vegetable elements of the preparation act upon all the vital organs and restore their tone and efficiency, the iodides attack the heavier and deadlier causes of disease and expel them from the system. It is this fact which has made Ayer's Sarsaparilla a necessity to white lead workers, type-founders, looking-glass makers, corrosive-sublimate manufacturers, zinc paint makers, plumbers, type-setters, and the hundred and one vocations which employ the death-dealing metals and metalloids. And it is this fact, likewise, which makes Ayer's Sarsaparilla so efficient in expelling the humors of the human body and in destroying the minute impurities of the blood which, left to themselves, are bound to produce pain, sickness, and even death.

BUSINESS NOTES.

HORSFORD'S ACID PHOSPHATE

Relieves the feeling of lassitude so common in mid-summer, and imparts vitality.

NO TRUST.

One of the manufactured articles that has not gone into a "trust" is steel pens. You may, however, always trust an Esterbrook Steel Pen for its good reliable qualities.

PRINTERS' INK.

A JOURNAL FOR ADVERTISERS.

PRINTERS' INK is just what it purports to be, "a journal for advertisers." It is issued on the first and fifteenth days of each month, and is the representative journal—the trade journal, so to speak—of American advertisers. It tells the intending and inexperienced advertiser in plain, comprehensive articles how, when, and where to advertise; how to write an advertisement; how to display one; what newspapers or other media to use; how much to expend—in fact, discourses on every point that admits of profitable discussion. If you advertise at all, PRINTERS' INK can help you. Perhaps you expend but Ten Dollars a year in advertising; if so, PRINTERS' INK may show you how to obtain double the service you are now getting for one-half the money. A year's subscription costs but One Dollar; a sample copy costs but Five Cents. Advertising is an art practised by many but understood by few. The conductors of PRINTERS' INK understand it thoroughly. Surely their advice, based on an experience of more than twenty-five years, will help you. Address:—



GEO. P. ROWELL & CO'S
Newspaper Advertising Bureau
10 Spruce St., New York.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

GABRIEL'S MARRIAGE,

By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,

By ETTA W. PIERCE.

THE RIGHTFUL HEIR,

By M. T. CALDOR.

THE DOUBLE HOUSE,

By MISS MULOCK.

TWICE SAVED,

By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alays the thirst, aids digestion, and relieves lassitude.

"Dr. T. C. Smith, Charlotte, N. C., says:

"An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop."

Dr. J. S. Niles, Pownal, Vt., says:

"Excellent as a tonic, and refreshing as a substitute for lemonade."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

EQUAL TO THE BEST.

A very comfortable hotel for permanent or transient guests in New York is the famous Sturtevant House, Broadway, cor. 29th Street, Matthews & Pierson, proprietors. European and American plans, prices very reasonable.—*Tribune*.

MICHIGAN MINING SCHOOL.

For Catalogues, address

M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.

ROBINSON'S SURE CURE FOR RHEUMATISM And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura



Will be found invaluable for **Cholera Infantum** and all Summer Complaints, children or adults. *It is not a medicine but will be retained & sustain life when everything else fails.* 4 sizes 35 cts. up.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superficial Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc.

Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist,
1st, 210 West 42d St., NEW YORK CITY, N.Y.

P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices. Also, Free-hand Drawing.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GENTLEMAN at Madras, to his brother at WORCESTER, May, 1851.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most wholesome sauce that is made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD MEATS,
GAME,
WELSH-RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



PUBLISHED EVERY SATURDAY.

In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer & Decorator.

Subscription, \$6.00 a Year in Advance.

SAMPLE FREE.

THE BEST ADVERTISING MEDIUM OF ITS CLASS
PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.

Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY. 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
23 Warren St., New York.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,

SOLE AGENT.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it.

Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION,** NEW YORK.

A CHARMING BOOK, INVALUABLE TO EVERY LADY.

ARTISTIC EMBROIDERY.

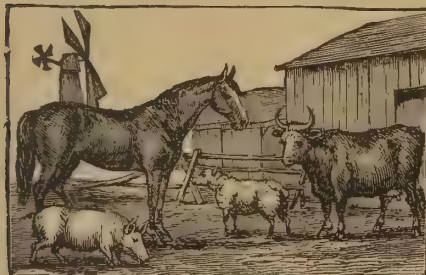
By ELLA RODMAN CHURCH.



Such a multiplicity of books upon the subject of Fancy Work are now offered for sale, it is often difficult for ladies to discriminate between the good and the bad. In the case of this work, however, the name of the author, Ella Rodman Church, should be a sufficient guarantee of its excellence, for a lady so well and favorably known could hardly afford to lend her name to anything not strictly first-class. This book is a complete text-book—a thorough instructor in every branch of Artistic Embroidery. With it as a guide all may become proficient in this beautiful and fascinating art, and those who are already skilled therein will find the many useful suggestions and the numerous beautiful new designs shown of the utmost value to them. The following is a partial summary of the contents: WORSTED EMBROIDERY—Crewel Work; the Crewel Stitch; Articles to be Worked in Crewels; an Embroidered Frieze; a Dag in Crewels; a Worsted Work Portiere; Curtains with Sprays of Sumac; a Sweet-Pea Table Cover; Screens in Crewel Work; Carriage Wraps; SIMPLE IDEAS OF COLORS; SILK EMBROIDERY—the Stitch; Group of Flowers; French or Flat Embroidery; the French Knot; Stalk Stitch; Point Russe; Herring Bone or Feather Stitch; Chain Stitch; Ladder Stitch; Chinese Embroidery; DESIGNING AND TRANSFERRING DESIGNS; ARTICLES IN SILK EMBROIDERY—A Screen of Peacock Feathers; Banner Screen; Embroidered Table Top; Window-Curtain Border; Embroidered Dresses; Panels; Small Curtains or Hangings; an Embroidered Room; a Fan Table Cover; a Chair Cover; Fire Screens; a Child's Afghan; PRINT WORK; SILK EMBROIDERY WITH GOLD—Materials Used; Gold Cord; Gold Braid; Bullion; Spangles; Gold Thread; EMBROIDERED BOOKS AND OTHER ARTICLES; APPLIED WORK WITH EMBROIDERY—A Lambrequin in Applique; Silk Applique Work; Cretonne Work; Grape Pictures in Applique; Linen Applique; EMBROIDERY IN CHENILLE; SILK EMBROIDERY ON LINEN—Embroidered Fruit Doyleys; HOBEN WORK; CHARTER EMBROIDERY; LINEN LACE WORK—Point Counts; Rosettes, Insertions, etc.; Point Coupe; Point Tire; Imitation of Antique Lace. ARTISTIC EMBROIDERY is a large 12 mo. book of 128 pages, handsomely bound in paper covers, and profusely and elegantly illustrated. It will be sent by mail post-paid upon receipt of only **Twenty-Five Cents**, and is guaranteed to be the best book of the kind ever offered at this low price.

ALL ABOUT HORSES, CATTLE, SHEEP AND HOGS.

The American Live Stock Manual.



No subject is of greater importance to the farmer than that of Live Stock, and few there are who have not much to learn regarding it. Many a man has lost a valuable animal for no other reason than that he did not know how to take care of it when well or to treat it when sick. THE AMERICAN LIVE STOCK MANUAL is a book the cost of which is but trifling, but it is simply worth its weight in gold to every man in America who owns a horse, a cow, a sheep or a hog, for it is a complete text-book, containing the fullest information regarding the care and management, feeding and rearing, of live stock, likewise directions for the cure of all diseases peculiar to these animals and of all unruly and vicious habits, for the construction of necessary buildings and conveniences, etc., etc. The following are only a small portion of the topics treated in this book: How to Judge a Horse; Feeding Horses; Raising a Colt; To Bit a Colt; To Break Horses from Pulling at the Halter; Warts on Horses; Stumbling Horses; Cure for Balky Horses; Kicking Horses; Training Vicious Horses; Galls and Sores on Horses; Reining Horses; Colic; Bots; Founder; Heaves; Epizootic; Shying; Scratches; Ringbone; Spavin; Cribbing; How to Save Oats in Feeding; Watering Horses; Care of Horse's Legs; How to Tell a Horse's Age; Neck Yokes; Good Grooming; Shoeing; To Make the Mane and Tail Grow; Box Stalls; Stables and Stabling; Breeding Horses upon Farms; Horse Education; Ringing a Bull; Relieving Choked Cattle; Bone Disease in Milch Cows; Marks of a Good Cow; Cattle Racks and Feed Boxes; Feeding Cattle; How Good Cows are Ruined; To Prevent Hooking Fences; Black Tongue; Lice; To Prevent Kidding; Contagious Cattle Diseases; Fattening Stock; Milking; Cooking Feed for Live Stock; The Soiling System; Raising Calves; To Break a Heifer or Vicious Cow to Milk; Wintering Live Stock; How to Take Off a Hide; Assistance at Birth; Hollow Horn; Obstructed Tests; Black Leg; Caked Udder; Jumping Cattle; Garget; Care and Management of Hogs; Pigerles; Troughs; Pig Raising; Over Feeding; Sanitary Management of Swine; Hog Cholera; Paralysis; Scurvy Pigs; Preparing Food for Swine; Butchering; Fattening Hogs; Driving Hogs; To Prevent Hogs Becoming Diseased; Raising Sheep; Washing Sheep; Sheep Rot; Hurdling Sheep; To Tell the Age of Sheep; Sheep Ticks; Early Lambs; How to Make Sheep Pay; Spring Feeding of Ewes; Treatment of Lambs; Increasing the Growth of Wool. THE AMERICAN LIVE STOCK MANUAL is a large book of 128 pages, 12mo, with handsome cover, and is profusely illustrated. It will be sent by mail post-paid upon receipt of only **Twenty-Five Cents**. Send for it! The price is but a trifle compared to its real value to every farmer.

Four Books in One! No Household is Complete Without It!

THE COMPLETE BOOK OF HOME AMUSEMENTS.



What most lives need is more sunshine. Let us banish care, have a good time, enjoy ourselves while we may. How much happier—how much better off—are those homes wherein the father and mother, and even the gray-haired grandparents, join with the children after tea in a merry game or other amusement, than those wherein reticence and reserve and chilly demeanor prevail. "But," you say, "what shall we do? We read until we are tired; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful book it is. It contains 64 large 3-column quarto pages, neatly bound in handsome covers, and is filled to the brim with every conceivable thing for the enjoyment of home. It is in reality four books in one, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It is a complete text-book for Public and Private Entertainments, Private Theatricals, Parlor Exhibitions, Social Gatherings, School Exhibitions and Evenings at Home. It is a book for old and young, grave and gay—a veritable storehouse of good things for all. It contains a number of ACTING CHARADES, with full directions how to perform them. It gives some very excellent PARLOR DRAMAS, easily acted yet very amusing. It tells all about SHADOW PANTOMIMES, and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful TABLEAU VIVANTS, and gives full and explicit directions for performing them. In it are so many amusing PARLOR GAMES that we have not attempted to count them, but we think we have almost everything, new and old, that was ever thought of in the game line. Then we come to a lot of wonderful ILLUSTRATED PUZZLES—tantalizing, perplexing, apparently intricate, but so easy when you turn to the proper place and learn the answers. Here also is a savory dish of RIDDLES, ENIGMAS, CHARADES, ETC.—a nice large lot of them. How young and old heads will puzzle and study over them, and how proud you will feel when you have solved one correctly. As to CONUNDRUMS, there are nearly a bushel of them, some so funny you will want to hold your sides with laughter, and what fun it will be for one of the company to read the questions and see who can guess the answers! A considerable portion of the book is allotted to PARLOR MAGIC, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are a lot of amusing and instructive CHEMICAL EXPERIMENTS, showing how the combination and manipulation of the simplest agents will produce the most surprising results. Following these are a number of excellent DIALOGUES, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest RECITATIONS, dramatic, pathetic, sentimental, and comic, ever written. It is handsomely illustrated, and is indeed a splendid book. THE COMPLETE BOOK OF HOME AMUSEMENTS will be sent by mail, post paid, to any address, upon receipt of only **Twenty-Five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the AMERICAN ANALYST for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the AMERICAN ANALYST. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the (Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price, Analyst.			Price including Regular American Price, Analyst.	
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 60	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 25
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

STEWART CERAMIC CO.,

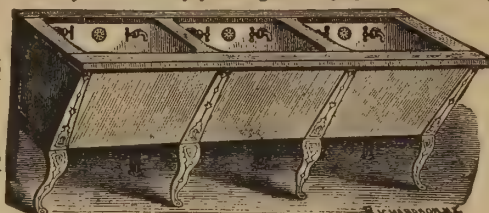
312 PEARL ST., Cor. Peck Slip, NEW YORK.

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.



VERY STRONG.

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top, SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are wide-spreading.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cook-book, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose purious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM.

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition :	ALBUMINOIDS.....	19 Parts.
	MILK SUGAR.....	64 "
	FAT.....	10 "
	MINERAL MATTER.....	3 "
	CHLORIDE of SODIUM added.....	1/2 "
	PHOSPHATE of LIME added.....	1/2 "
	MOISTURE.....	3 "

SEND FOR SAMPLE and compare it with every other food used in artificial feeding of Infants.

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. A SEDATIVE, NERVE AND BRAIN FOOD.

(GRANULAR EFFERVESCENT.)

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	DIGEST AND ANALYST. PRICE.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the *Boston Annals of Gynecology*, *Detroit Index Medicus*, *New York Medizinische Presse*, *Phila. Archives of Pediatrics*. Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. **Five Thousand Physicians** have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Leading Numbers

14,048,123
130, 135,
333, 161.

For sale by all stationers.
THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

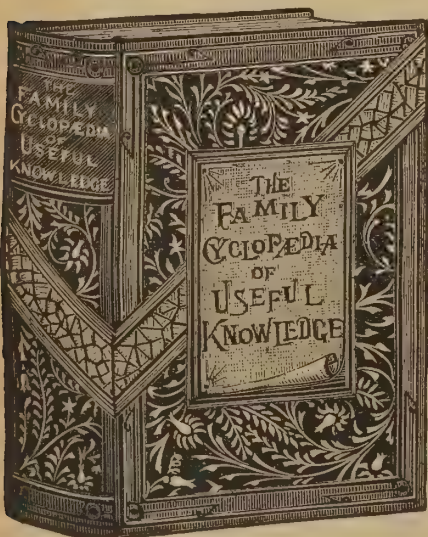


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A. sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

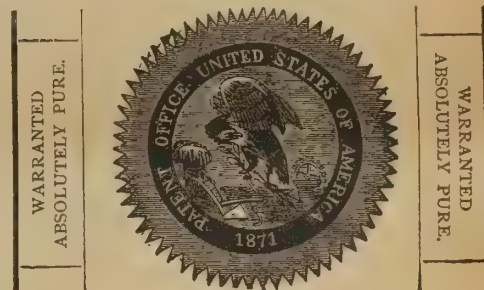
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

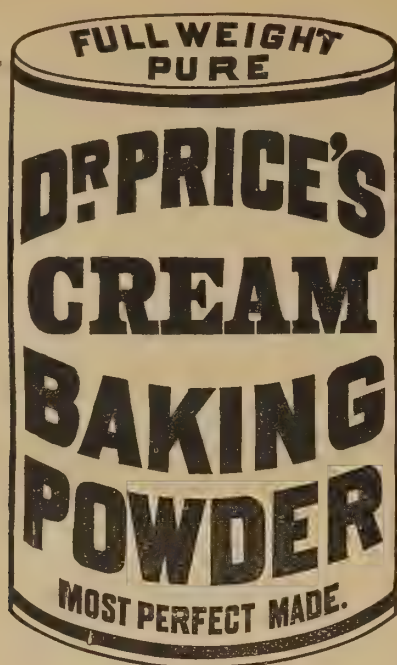
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M.D., F.R.S., and an endorsement by SIR ERASMUS WILSON, F.R.S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.



The Most Reliable Food
For Infants & Invalids.
Not a medicine, but a specially
prepared Food, adapted to the
weakest stomach. 4 sizes cans.
Pamphlet free. Woolrich & Co.
(on every label). Palmer, Mass.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

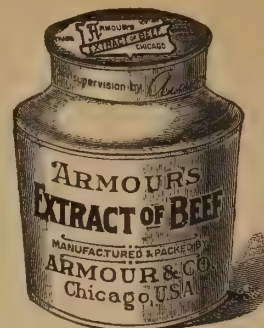
JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endor-
sed by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 32.

NEW YORK, THURSDAY, AUGUST 8, 1889.

WHOLE No. 128.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

American Nobility.....	375
Caviare	376
Domestic Dietetics.....	376
Editorials	373
Nineteenth Century Alchemy; A Year of Conferences; Lard in Canada; Inspection Judicially Inspected; A Mosquito War; The Defeated Inspection Bullies.	
Electrical Appliances.....	374
Fire, What is a.....	375
Hyperborean Heat.....	375
Meat for Food.....	375
Salt.....	376
Why we are Right-handed.....	376

NINETEENTH CENTURY ALCHEMY.

Considerable ridicule has been bestowed lately upon the experiments reported by Dr. Brown-Sequard aiming at the discovery, in a qualified degree, of an elixir of life. The scientific gentleman named obtained a substance by triturating in distilled water the living tissues of certain animals—rabbits and guinea-pigs, we believe—and claimed to have produced wonderful rejuvenating effects by the hypodermic injection of the product into the human system, he himself being one of the subjects experimented upon. The results reported were regarded by his associates, and the general public, as the emanations of an enthusiastic imagination rather than sober scientific verities. But it turns out that they have received verification from other sources. A member of the French Biological Society, Dr. Variot, a hospital physician of Paris, reports that he has made a series of experiments with Brown-Sequard's liquid, with results entirely confirmatory of the latter's claim. Dr. Variot states that he took for the purpose of experiment three

day laborers, who were respectively fifty-four, fifty-six and sixty-eight years old, and all of whom were in a greatly debilitated and reduced physical state. He made in each case a hypodermic injection of the liquid, using with it ten cubic centimetres of water. In each case the invalids reported next day a most marked and extraordinary improvement of condition, declaring that they had never felt so well for many years. In each case, too, Dr. Variot was able to perceive certain recovery from the particular trouble from which the man was suffering. Encouraged by his success, Dr. Variot continued his injections, allowing forty-eight hours to lapse between the administerings of the liquid. The improvement in all cases was so marked that chronic troubles which had resisted all previous treatment were apparently cured; and those men, Dr. Variot says, "who had previously merely existed, dull, languishing, broken down, are now full of gayety and force. Their muscular strength has sensibly augmented, and their appetite has returned." All this reads like the advertisements of some patent cure-all, whose proprietor is able to get all the "testimonials" he wants to the miraculous properties of his preparation. But these physicians are not quacks, and have everything to lose, it would seem, and nothing to gain, by the discovery of such an elixir. But what is it that they have discovered, if they have discovered anything? Dr. Brown-Sequard himself suggested the possibility that what the French call "auto-suggestion," and what may be described as a combination of hypnotism and the mind-cure, might be the explanation of the action of the liquid. But Dr. Variot's experiments seem to make even this not very satisfactory theory untenable. In three cases in which he operated he told the men—all of whom were ignorant men, knowing nothing of therapeutics, and never having heard of Dr. Brown-Sequard and his elixir—that he was injecting into their veins a "strengthening liquid." He then administered the "elixir," with the effects that have been described. Then he took three more just such men, told them exactly the same things, and administered—cold water. The men reported no effect whatever. This seems to bar out the supposition that the substance operates by means of its effect on the imagination of the subject.

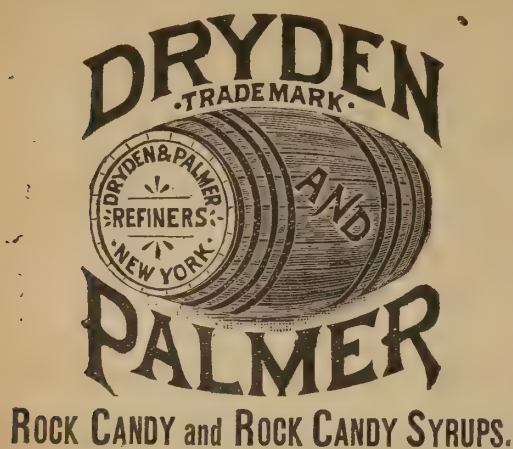
A YEAR OF CONFERENCES.

Three great international conferences toward which the United States bear a most dignified relation, are to be held in October of this year. All three are the outgrowth of American doctrines and influences. The Congress of American Nations, which meets in Washington, October 2, will be the outcome of plans urged for many years by leading statesmen in this country and in "the States south of us." A large and dignified attendance is assured, and the conference is authorized to take into consideration all matters tending to promote better trade relations between the United States and Central and South America. The trade which "the

States south of us" now have with Europe would be a rich prize for the United States. Another international conference, called to meet in Washington in October, will be devoted to the consideration of ways and means to harmonize the marine codes of different nations "on the basis of modern needs, sentiment, usages, and civilization, so that the perils of ocean travel may be reduced and the laws affecting navigation reformed in accordance with National rights and the conditions of modern commerce." That the United States should be selected as the meeting place for such a conference shows the commanding position this country is getting in international affairs. The third international conference, which meets in Paris, was called by a number of members of the French and British Parliaments, respectively, and its purpose is to "bring about between their nations and the Republic of the United States of America the conclusion of treaties of arbitration of such nature as to insure, by the amicable settlement of difficulties between them, the maintenance of their friendly relations." Asking the aid of this country, some of the ablest English and French statesmen propose to extend and establish firmly the great principle of arbitration as followed by the United States in the settlement of the Alabama claims.

LARD IN CANADA.

Under the date of February 14, 1889, the laboratory of the Inland Revenue department of Canada issued a bulletin giving the results of some analyses of lard bought in Canada. These examinations were made, the Chief Analyst states, because numerous prosecutions for selling adulterated lard in England have called attention to the subject. As the methods employed were admittedly only for the purpose of finding the addition of any foreign substance to the lard, the results do not inform us as to the cleanliness nor the source of the pure lard found. The names of the manufacturers having been furnished by the venders cannot therefore be always entirely reliable. Of the 109 different samples of lard examined 38 were of native, 11 unknown, and 60 of American origin. Thirty-two are reported as free from adulteration, 8 as adulterated with water, 3 as simply adulterated and the remaining 66 as adulterated with cotton-seed oil. Only one of the samples from the United States is credited with being unadulterated. The report adds that in many cases beef tallow was also present and that it is difficult to say to what extent these substances are substituted for lard, or indeed, to be certain that they do not replace it entirely. The Analyst states that neither Fairbank's nor Armour's lard contained any water which was found in the lard supplied from New York, especially that bearing Tietjen's brand in varying proportions of from 5 to 24 per cent. He also admits that Canadian lard-makers are beginning to imitate the American manufacturers. The report concludes by recommending as the only available remedy, the imposition of a higher duty on



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

lard imported from the United States. How this remedy will prevent Canadian refiners from making cotton seed and tallow lard the Chief Analyst does not say. Neither does he seem to have thought of the much simpler and much fairer remedy of compelling manufacturers to brand their product truthfully. It has worked satisfactorily here, why not in Canada?

INSPECTION JUDICIALLY INSPECTED.

Our friend of the *AMERICAN ANALYST* is so elated by the recent decision of Judge Johnson, of Indiana, that, in speaking of the test case brought up in Minnesota to determine the validity of the inspection law, he is moved to say "the result can be confidently predicted," but here he drops the matter and leaves himself on the fence, from which position he can fall on either side and still claim to be a prophet. We are of the same mind as far as feeling confident that the result can be predicted, and we unhesitatingly predict that the law will be upheld by the State Supreme Court and the Supreme Court of the United States, if the case is carried there. Brother *ANALYST*, please be a little more explicit in your statements and leave less to inference.—*Butchers' Advocate*, July 28.

The result that we "confidently predicted" was that the inspection cranks represented by the *Advocate* would be thrown out of court as soon as their case was stated. That is just what happened. Judge Manwaring last week at Stillwater, Minnesota, discharged William Fee, the Wisconsin farmer who had been arrested for selling dressed beef in that city which had not been inspected on the hoof, as required by the State inspection bill, giving his decision on the ground "of the unconstitutionality of the law, inasmuch as it infringes upon the domain of Congress, which regulates the commerce between the States." If there is anything "left to inference" in that language, the *Advocate* is at liberty to supply the deficiency. How the obstructionists "kick" over the repudiation of their conspiracy by the courts!

A MOSQUITO WAR.

There is a gentleman in this community who has a settled desire to render himself a benefactor of his race. His name is Lamborn, and his scheme is to effect the destruction of all noxious insects that disturb the comfort of domestic life, and especially house flies and mosquitoes. Scientific investigation favors the belief that tuberculosis and ophthalmia are carried from diseased persons to healthy ones by the house fly, and German experimenters have shown that serious blood maladies may be transmitted by the mosquito. In view of these facts and the general personal discomfort, occasioned by both of those pests, Mr. Lamborn has

been studying out some method for their destruction. After observing that harmless dragon flies feed on mosquitoes, it occurs to Mr. Lamborn that dragon flies may be propagated by scientific methods in such numbers and in such places as to materially decrease both the danger and discomfort produced by mosquitoes. He also thinks that some innoxious insect may be found and bred to destroy the noxious house fly. At any rate, he has made an appeal to all entomologists to take the matter under serious consideration and to make known the result of their researches. In order to stimulate scientific investigation in this direction Mr. Lamborn has offered prizes of \$150, \$30 and \$20, to be paid respectively for the first, second and third essays, on the subject. The money has been placed in the hands of Morris K. Jesup, President of the American Museum of Natural History, New York, and the judges of award are Dr. Henry C. McCook, Vice-President of the Academy of Natural Science of Philadelphia and Vice-President of the American Society of Entomologists, and Dr. J. S. Newberry, President of the New York Academy of Sciences, Professor of Geology in Columbia College, and lately Chief of the Geological Survey of Ohio. In awarding the prizes clearness of statement obtained by accompanying sketches and new and purely scientific facts in the life history of the *Libellulidae*, of which so little is known, will be duly considered. The essays should be forwarded by December 1, 1889, to Mr. J. H. Winsor, at the American Museum of Natural History, Seventy-seventh Street and Eighth Avenue, New York City, to whom all communications should be addressed.

THE DEFEATED INSPECTION BULLIES.

Everybody has observed how ridiculous the boy looks who having bullied over a smaller boy whom he thought unable to defend himself, finally aroused him and got himself well trounced. This seems to be exactly the plight of the *Stock Grower* of Los Vegas, N. M. Judging from the subjoined extracts from last issue, they sound very much like the boy's expostulation: "I only meant it in fun." But all the same the boy got his licking and he could not give it back again, and so it is with the butcher's combination.

The big four has scored another victory in defeating the local meat law in Indiana. It is impossible to overcome such vast, concentrated capital by unorganized effort and there is no use of one per cent. of the stock owners of the West getting gray-headed and scheming themselves to death for the benefit of the other ninety-nine. Let us wait and see how the over-productionists come out.

It will be remembered that this paper while using every means in its power to break up any monopoly in beef products, has never attacked the dressed beef business as a system. As an economical way of handling fresh meat, the refrigeration method is bound to prevail by reason of the saving that is bound to result. The *Stock Grower* will be found consistent, for it still believes that the packers are doing up the producers and that the best thing that could happen for the cattle business would be for the big four crowd to have lively competition in the dressed meat trade. The Chicago packers are not doing business on a very small margin but the fact remains that they could take the hoofs, horns and offal alone for their share and still make a big thing. A Chicago dressed meat man is credited with having said that he can ship 1,000 head of cattle from Denver to Kansas City, slaughter them, reship the meat back to Denver and undersell the local butchers. This secret lies in making use of the hair, hoofs, horns and every part of the animal which Denver butchers waste.

CURIOUS RESULTS.—The Mannesmann process of manufacturing steel tubes by rolling is now well-known, and by it it is easy to form a cylinder closed at both ends, in which case the interior of the tube, on cutting into it, is found to be full of some gas. This gas has recently been analyzed, with the result that it was found to consist of 99 per cent. of hydrogen and 1 per cent. of nitrogen. The steel which was made was found to have the following composition in parts per 100: Carbon, .42; silicon, .25; phosphorus, .022; sulphur, .01; manganese, .23; with traces of copper.

ELECTRICAL APPLIANCES.

HOW THE MYSTICAL FLUID IS BEING AVAILED OF FOR PRACTICAL PURPOSES.

The application of electricity to the performance of work in the arts and sciences, formerly done by other means, is constantly increasing, the field widening with each new venture until it seems as though there were scarcely a department of human industry in which it will not soon play an important part. The following are among the later advances in this direction:

THE LIQUEFACTION OF GASES BY ELECTRICITY.

The following method of liquefying gases has recently been discovered: Strong hydrochloric acid is introduced into a combustion tube, bent at right angles, so as to cover two small platinum plates fused into the closed end of the tube; a plug of asbestos, saturated with concentrated sulphuric acid, is placed at the bend; the open and shorter arm is then fused up and immersed in a freezing mixture. On the passage of a current through the plates, gas is evolved and liquefies at the other end; but on removing the tube from the freezing mixture and discontinuing the current the liquefied hydrogen chloride is reabsorbed by the water. The experiment may then be repeated. Other compound gases behave in a similar manner. When acidified water is decomposed in this apparatus, and a platinum plate covered with platinum-black has been fused in the short end, explosions occur there at intervals, and small quantities of water form, containing hydrogen peroxide, and having an ozonized odor. With chromic acid and water the blue oxide of chromium is obtained.

NEW ELECTRIC WELDING PATENTS.

Two patents have recently been granted to Mr. Elias E. Ries, of Baltimore, Md., for welding together sections of pipe and other hollow metallic articles by electricity. In the process applicable to the electric welding of tubes and pipes of all kinds the sections of the pipe preferably, though not necessarily, have the ends to be united slightly tapered or reduced in thickness in order to increase the electrical resistance at this point and promote the fusion of the metals under the heating action of the current. This method is especially applicable to the welding of tubes of curved and irregular form, into which it would be difficult to introduce a solid core.

ELECTRIC WEIGHING MACHINE.

An electric weighing machine, invented by Mr. William Snelgrove, will be exhibited at the Paris Exhibition. It is operated and controlled by the current of a small constant battery concealed in the base. The machine is of the knife-edged lever type, and is provided with three movable poises or slides. As the goods to be weighed are placed on the platform, these poises automatically start and travel backward and forward on the steelyard until they exactly balance the goods; the correct weight is then shown by the machine in a single group of figures. As the goods are removed from the platform all the poises automatically return to zero, the last one breaking the battery circuit and preventing any waste of current.

ELECTRICAL PIANO.

Dr. Eisenmann, of Berlin, Germany, has invented what has previously been attempted by other experts—namely, a piano which, by the aid of electro-magnetism, can sustain, increase, and diminish sound. One of the special features of this invention, it is said, is that by moving the electro-magnets the timbre of the tone is changed, for example, from that of a violoncello to a piccolo. In this same direction an exhibition of an interesting application of electric power was recently given at the warerooms of the Aeolian Organ and Music Company, of New York. It consisted of an automatic piano playing by means of a patent electric attachment, which, it is claimed, can be applied to any make of pianoforte, the current being supplied from

the underground wires in the street. The musical composition to be rendered is inscribed upon a scroll wound upon a cylinder and placed in an inclosed space behind the music rack. A spring is touched, the circuit is completed, and the music begins. The same patent, which belongs to the Edison Company, can also be applied to an organ.

MEAT FOR FOOD.

EXTENSIVE INCREASE OF ANIMAL PRODUCTS IN THE UNITED STATES.

The question whether the people of this country are learning to use less animal food, milk, butter and cheese than in former years excites some attention, and not wholly without reason. The official returns, at all events, seem to indicate that the supply of these products has not increased during the past ten years in proportion to the increase in population. It is generally conceded that, on account of the enormous immigration, the population has grown during the last nine years more than during the preceding ten years. For ten years ago the growth was about 1,500,000 yearly, but the increase in immigration has been more than 1,900,000—from 1870 to 1880 the number of immigrants was about 2,800,000, and from 1880 to 1889 it has been about 4,700,000. An increase of fully 30 per cent. in population during these nine years must be taken as a basis of comparison, and the increase in number of animals for food supply has been much smaller. The figures which follow are those of the census of 1880, compared with the report of the Agricultural Bureau for January, 1889, with percentages of increase added:

	1889.	1880.	Inc. PER CT.
Horses.....	13,663,294	10,357,488	30
Mules.....	2,257,574	1,812,808	24
Milch cows.....	15,298,625	12,443,120	23
Other cattle.....	35,032,417	28,462,891	50
Sheep.....	42,599,079	35,192,074	20
Swine.....	50,301,592	47,681,700	5

The one exceptional increase largely exceeding that in population is in oxen and other cattle, so that the consumption of beef appears to have increased per capita, while the consumption of pork and mutton must have decreased. Part of the difference is due to the change in exports, which were about 247 million pounds of fresh and salt beef and live cattle in 1879-80, against about 375 millions during the past year; while of pork, bacon and hams the exports this year have been about 461 million pounds, against 854 million pounds in the census year. But after allowance for the difference in exports, the consumption of beef in this country would appear to have increased fully 10 pounds per capita, while the consumption of pork would appear to have decreased 11 pounds per capita. At the same time there must have been a decrease in the quantity of mutton used, as the number of sheep has increased less than population. The comparative cheapness of beef, since the organization of many expensive cattle companies, probably explains the shifting of consumption from beef to pork, though it does not account for the apparent decrease in quantity of all meats used for each inhabitant. The number of milch cows affords the only indication of the supply of dairy products, and no reason is known for believing that the quantity of milk yielded per cow is greater than it was nine years ago. But if not, the supply has relatively diminished so much that, at the rate of consumption existing in 1880, more than four millions of the present population would be without any supply of milk whatever. The exports of butter and cheese have indeed increased about one-half, or not far from 90 million pounds. But this would account for only a fraction of the difference in the supply. The large increase in population of foreign birth and recent immigration, accustomed in other lands to different habits from those prevailing here, may be a most potent

cause of change; but more potent still, possibly, is the increase in civic population as compared with rural, and the advancing cost of land for pasture in the more thoroughly settled States.—*Daily Commercial Bulletin.*

WHAT IS A FIRE?

IMPORTANT DECISION IN AN INSURANCE CASE.

A curious point of law, bearing upon the responsibility of insurance companies, has just been decided in the Paris Law Courts (5th Chamber of the Civil Tribunal of the Seine), at the suit of the Countess Fitz-James vs. the Union Fire Insurance Company, of Paris, by which it is ruled that insurance companies must indemnify all losses sustained by an assured caused by fire, even in cases where no destruction of premises has been caused by conflagration. The Countess Fitz-James insured against fire, in the above company, all her furniture and effects for 558,000 francs, and in her policy, under Art. 7, were mentioned her jewels, among which figured specially a pair of earrings, composed of fine pearls, valued at 18,000 francs. On April 17, 1887, one of these earrings, which had been placed on the mantelpiece, was accidentally knocked down by the countess and fell into the fire, where it was consumed, notwithstanding every effort made to save the jewel. Expert jewelers were called in by both parties to estimate the intrinsic value of the property destroyed, and 9,000 francs was stated to be the amount, less 60 francs for molten gold rescued from the ashes. The insurance company refused to pay for the burnt pearl on the ground that there was no conflagration, that the fire which consumed the object was an ordinary fire; in other words, that there was no fire, and that the company was not responsible where combustion had only occurred by the ordinary use of a grate for heating purposes. The court, however, rejected this, and ruled that "the word *fire*, in matters of assurance, applied to every accident, however unimportant such accident may be, so long as it is caused by the action of fire." It was, therefore, ordered that the Union Company should pay to the Countess Fitz-James the value of the jewel, less than of the gold recovered, viz.: 8,940 francs and costs.

HYPERBOREAN HEAT.

REMARKABLE WARMTH OF THE SIBERIAN SUMMER.

Siberia is commonly regarded as a region of ice and cold, but according to Mr. George Kennan it is, in summer time, about as hot a country as there is on the face of the globe. In one of his remarkable Siberian narratives, given in the *Century Magazine*, Mr. Kennan thus relates one of his hot weather experiences:

"The farther we went up the Irtes'h the hotter became the weather, and the more barren the steppes, until it was easy to imagine that we were in an Arabian or a north African desert. The thermometer ranged day after day from 90 to 103 deg. in the shade; the atmosphere was suffocating; every leaf and every blade of grass, as far as the eye could reach, had been absolutely burned dead by the fierce sunshine; great whirling columns of sand 100 to 150 feet in height swept slowly and majestically across the sun-scorched plain; and we could trace the progress of a single mounted Kirghis five miles away, by the cloud of dust which his horse's hoofs raised from the steppe. I suffered intensely from the heat and thirst, and had to protect myself from the fierce sunshine by swathing my body in four thicknesses of blanket and putting a big down pillow over my legs. I could not hold my hand in that sunshine five minutes without pain, and wrapping my body in four thicknesses of heavy woolen blanketing gave me at once a sensation of coolness. Mine was the southern or sunny side of the tarantas, and I finally became so exhausted with the fierce heat, and had such a strange feeling of faintness, nausea and suffocation that I asked Mr. Frost to change

sides with me and give me a brief respite. He wrapped himself up in a blanket, put a pillow over his legs, and managed to endure it until evening. Familiar as I supposed myself to be with Siberia, I little thought, when I crossed the frontier, that I should find in it a north African desert, with whirling sand columns and sunshine from which I should be obliged to protect my limbs with blankets. I laughed at a Russian officer in Omsk who told me that the heat in the valley of the Irtes'h was often so intense as to cause nausea and fainting, and who advised me not to travel between eleven o'clock in the morning and three o'clock in the afternoon, when the day was cloudless and hot. The idea of having a sunstroke in Siberia, and the suggestion not to travel there in the middle of the day, seemed to me so preposterous that I could not refrain from a smile of amusement. He assured me, however, that he was talking seriously, and said that he had seen soldiers unconscious for hours after a fit of nausea and fainting, brought on by marching in the sunshine. He did not know sunstroke by name, and seemed to think that the symptoms which he described were peculiar effects of the Irtes'h valley heat, but it was evidently sunstroke that he had seen."

AMERICAN NOBILITY.

A REMARKABLE RECORD OF A REMARKABLE FAMILY.

The principle of heredity has received a most striking illustration in the case of family and kinsmen of ex-President Theodore Dwight Woolsey of Yale College, who died at New Haven, recently, at the age of eighty-eight. Dr. Woolsey was a descendant of James Pierpont, the famous native of Roxbury, who, having become dissatisfied with the liberal tendencies of Harvard College, induced Elihu Yale to found a more conservative school at New Haven. The present president of Yale, Timothy Dwight, is also a descendant of the same founder; and the history of the families of Dwight is interwoven with that of the families of Edwards and Pierpont, who have given many illustrious names to American history and letters. It is no mere coincidence that both Woolsey and Dwight, nineteenth-century presidents of Yale, should both have been great-grandsons of the principal founder of the college; for the "high thinking and plain living" of the early families who were closely associated with the institution, developing themselves into a hereditary impetus of ability, were quite likely to supply the qualities needed in future presidents. These allied families have not been merely Yale families, by any means; they have given the world, since Jonathan Edwards whose fame as a theologian and metaphysician is world-wide, men and women who are eminent in many lines; such men, for instance, as Tryon Edwards the theologian, Pierpont Edwards the lawyer, and Henry Pierpont Edwards the judge; John Pierpont the poet; William Constable Pierpont, astronomer, mathematician and politician; Edwards Pierpont, jurist and diplomatist; Timothy Dwight, president of Yale College in the eighteenth century; Theodore Dwight, senior and junior, journalists and authors; Benjamin Woolsey Dwight, physician; Benjamin Woodbridge Dwight educator; Theodore William Dwight jurist; Timothy Dwight the present president of Yale College; Sereno Edwards Dwight, author; William Theodore Dwight, preacher; Henry Edward Dwight, author; Theodore Dwight Woolsey, just deceased; Theodore S. Woolsey, professor of international law in Yale College; and Sarah Chauncey Woolsey (Susan Coolidge), the authoress. Perhaps there should be mentioned in this category, Aaron Burr, the grandson of Jonathan Edwards, in whom inherited genius seems to have taken a most erratic turn, quite indistinguishable in other branches of these allied families.

Subscriptions \$1 per year. Now is the time to subscribe.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

August.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, crabs, clams, flounder, halibut, herring, lobster, mackerel, mussels, porgie, prawn, salmon, turtle, trout, sturgeon, whiting, weak-fish, rockfish.

VEGETABLES.—Beans, beets, cucumbers, cabbage, carrots, cauliflower, corn, egg-plant, lettuce, onions, parsley, parsnips, potatoes, squash, shallots, spinach, turnips, radish, rhubarb, tomatoes.

FRUITS.—Cherries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple, grapes, plums.

PRACTICAL RECIPES.

CHESHIRE SOAP.—Let two pounds of beef, put over the fire in a quart of cold water, come to the boiling point, then allow it to simmer for six hours, skimming well. While cooking add a bunch of thyme, sweet marjoram and celery, also two chopped onions. Remove the fat, season to taste and serve with slice of toasted bread.

SHRIMPS FOR BREAKFAST.—Put a pint of fresh shrimps in a saucepan, cover with a half pint or so of stock and thicken with browned flour, add a piece of

butter, salt, pepper and pounded meal. Simmer gently for three or four minutes till the shrimps are very hot and tender. Serve hot and garnish the dish with small pieces of toasted bread.

GOOSEBERRY SOUFFLE.—Stew the gooseberries with a good quantity of sugar until the fruit is quite tender. Press the gooseberries through a coarse sieve, and put the pulp into a glass dish. Let it become quite cold, and if possible set the dish in some ice. When cold, pour over it a good custard. This may be made with the yolks of eggs, and the whites beaten to a firm froth and laid over the souffle just before sending it to table. Color half the white of the eggs with a few drops of cochineal.

WHOOVERS.—Mix two heaping cups sifted flour with one heaping teaspoonful Horsford's baking powder; then add two eggs, one large spoonful sugar, a piece of butter as large as a walnut, two cups sweet milk, a little nutmeg and salt; melt the butter. Bake in cups in a quick oven.

CURRIED POTATOES.—Slice a good-sized onion and fry it with 2 ounces butter, cut up one pound boiled potatoes, put them into the frying-pan with the onion, dredge them well with curry powder, add quarter-pint gravy, a little salt, and a squeeze of lemon juice. Shake the whole on the fire for ten minutes, and serve hot.

FROZEN COFFEE.—Add half a pound of ground Java coffee to two quarts of boiling water. Stir well, cover and set on the side of the range to infuse. Stir occasionally for ten minutes and then set in a warm place and let settle. When settled pour the coffee through a fine strainer, carefully, so as not to take the dregs. Add enough cold water to make two quarts. Make very sweet and freeze. Serve in glasses. Part cream may be used with clear strong coffee and a bit of vanilla bean put in and steeped with the coffee, adds to the flavor.

PINEAPPLE PIE.—One grated pineapple, one cupful of sweet cream, five eggs, one cupful of sugar, and half cupful of butter; beat butter and sugar to a cream, add beaten yolks of eggs, then the pineapple and cream, and lastly the beaten whites whipped in lightly. Bake with under crust only.

CAVIARE.

HOW THE RUSSIAN DELICACY IS PREPARED.

This aliment, which is considered a great delicacy in Russia, Germany and Italy, is made from the prepared roe of the sturgeon. Its origin is in Russia, where it is consumed in immense quantities. The Americans have also of late years taken a liking to it, and have started large establishments for its manufacture on the shores of the great lakes where the sturgeon abounds. The roe of this fish is very different from that of other fish; it is so very much larger and very thin-skinned, containing only an oily jelly which melts away in the mouth, having little or no residuum, and is held together by a network of cellular tissues, fat and muscle in large quantities, and exceeds in size the head of the largest man. A net or very small mesh spread over a frame does duty as a kind of coarse sieve, and the roes being lightly pressed and kneaded over this, the eggs are detached, and fall into wooden tubs placed below, each grain being quite distinct from the others, and of a very dark-brown color. "Grained caviar" is made by sprinkling the eggs with very finely-ground salt, of which 5 lbs. to 36 lbs. of eggs are used in the hotter months, while only 1½ to 2½ are sufficient in cold weather, the least possible quantity of salt being a great desideratum. To stir in the salt a wooden fork with eight prongs is used. The eggs become first doughy, then swell, and finally give out a noise like a string of broken glass, which proves the process is completed.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHEA, and HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER McGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondamine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

Then the caviar is closely packed in hard-wood kegs. To make "grain caviar" the eggs fall into brine stirred as before, and in quantities of about 1 cwt., subjected to heavy pressure in coarse sacks till the brine is expelled, and the whole compressed into a sticky, soft mass. Nearly one-third of the contents of the eggs are squeezed out with the brine, and the caviar is now packed in large casks lined with damask linen, from whence it is called "Caviare à la Serviette." "Caviar à sac," as its name shows, is very choice caviar pressed and put into linen sacks, and shipped in hermetically-sealed cans and boxes.

WHY WE ARE RIGHT-HANDED.

PROTECTION OF THE VULNERABLE PART OF THE BODY.

Primitive man, being by nature a fighting animal, fought for the most part at first with his great canine teeth, his nails and his fists, till in process of time he added to those early and natural weapons the further persuasions of a club or shillalah. He also fought, as Darwin has conclusively shown, in the main for the possession of the ladies of his kind, against other members of his own sex and species. And if you fight you soon learn to protect the most exposed and vulnerable portion of your body. Or, if you don't, natural selection manages it for you, by killing you off as an immediate consequence. To the boxer, wrestler or hand-to-hand combatant, that most vulnerable portion is undoubtedly the heart. A hard blow, well delivered on the left breast, will easily kill, or, at any rate, stun even a strong man. Hence, from an early period men have used the right hand to fight with, and have employed the left arm chiefly to cover the heart and to parry a blow aimed at that specially vulnerable region. And when weapons of offense and defense supersede mere fists and teeth, it is the right hand that grasps the spear or sword, while the left holds over the heart for defense the shield or buckler. From this simple origin, then, the whole vast difference of right and left in civilized life takes its beginning. At first no doubt the superiority of the right hand was only felt in the manner of fighting. But that alone gave it a distinct pull, and paved the way at last for the supremacy elsewhere; for when weapons came into use the habitual employment of the right hand to grasp the spear, sword or knife made the nerves or muscles of the right side far more obedient to the con-

trol of the will than those of the left. The dexterity thus acquired by the right—see how the word "dexterity" implies this fact—made it more natural for the early hunter and artificer to employ the same hand preferentially in the manufacture of flint hatchets, bows and arrows, and all the other manifold activities of savage life. It was the hand with which he grasped his weapon; it was therefore the hand with which he chipped it. To the end, however, the right hand remains especially "the hand in which you hold your knife;" and that is exactly how your own children to this day decide the question which is which, when they begin to know their right hand from their left for practical purposes.

SALT.

THE SEVERAL PROCESSES OF ITS PRODUCTION.

Common salt is either procured in the solid crystalline state, called rock salt, as a natural brine from wells or springs, or by the evaporation of sea water. Rock salt almost always contains impurities, and therefore is dissolved in water, and the insoluble matters mixed with it are deposited at the bottom. The brine is then drawn off, and evaporated by artificial heat in large iron pans. Natural brine is obtained in Western and Central New York. A shaft is sunk and the brine rises to the surface, and overflows if not pumped. There are reservoirs made for it, into which it is pumped, and from which it is distributed to the various works, which are little more than large sheds, with numerous openings in their roofs to allow the steam free egress. Flues run from end to end of the floors, and on these rest the iron evaporating pans, which are about 65 feet long by 25 feet broad, and about 18 inches in depth. In other places very deep shafts have been sunk, and the brine requires to be pumped from a great depth. The flues heat the brine nearly to boiling point, and, as a large surface is exposed, the evaporation is very rapid, and the crystals are small, as in fine table salt. If, however, the heat is more gentle, the salt is coarser, and is fit for curing meat, fish, etc.; and when very slow, a much coarser kind called bay salt is produced. Salt is obtained from sea water in many parts of the world, and this is effected by simply evaporating it in brine pits or shallow square pools dug on the shore for the purpose. When the evaporation has proceeded to a certain ex-

tent, the liquid assumes a reddish color; a pellicle of salt forms on its surface, which soon breaks and sinks down, to be followed by another; and the crystallization then proceeds rapidly. When complete, the salt is removed to sheds open at the sides and piled in heaps, in order that the chloride of magnesium may be removed. This is very easy, for it is extremely deliquescent—that is, it liquefies by exposure to the atmosphere, absorbing the moisture therein, and runs out. The salt is then re-dissolved and crystallizes, if great fineness is required.

MOSQUITO CURE.—Take a small quantity of a 2-per cent. carbolic acid solution and sprinkle sheets, coverlets, pillows and bolsters on both sides, the edges of bed curtains and the wall next to the bed. The face and neck may also be slightly wetted with the solution. Not a single gnat or mosquito, it is said, will come near.

ELECTRIC PROSPECTS.—At some future day, not far distant, we hope, when the public are sufficiently aroused to the importance of this question, a certain width of our great thoroughfares all over the city will be given up to an iron roadway on which self-propelled electric vans may noiselessly carry on the great traffic which now offends our ears, wears out horse flesh, and has been but little improved up to the present day since the days of the Cæsars. In fact, we aver that with our boasted improvements of the nineteenth century it requires more expenditure of horse-power to draw a ton of merchandise a mile in the streets of New York than it did in Rome in the early days of the empire.—*Electrical Review.*

Fine Table Wines

From our Celebrated
Orleans
Vineyard.

Grand Handwritten & Co.

Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: T. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

See Clubbing Rates of **AMERICAN ANALYST** with Medical Journals, and study their advantages.



PUBLISHED EVERY SATURDAY.
In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer & Decorator.

Subscription, \$6.00 a Year In Advance.
SAMPLE FREE.

THE BEST ADVERTISING MEDIUM OF ITS CLASS
PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.
Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY, 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
23 Warren St., New York.

PRINTERS' INK.

A JOURNAL FOR ADVERTISERS.

PRINTERS' INK is just what it purports to be, "a journal for advertisers." It is issued on the first and fifteenth days of each month, and is the representative journal—the trade journal, so to speak—of American advertisers. It tells the intending and inexperienced advertiser in plain, comprehensive articles how, when, and where to advertise; how to write an advertisement; how to display one; what newspapers or other media to use; how much to expend—in fact, discourses on every point that admits of profitable discussion. If you advertise at all, **PRINTERS' INK** can help you. Perhaps you expend but Ten Dollars a year in advertising; if so, **PRINTERS' INK** may show you how to obtain double the service you are now getting for one-half the money. A year's subscription costs but One Dollar; a sample copy costs but Five Cents. Advertising is an art practised by many but understood by few. The conductors of **PRINTERS' INK** understand it thoroughly. Surely their advice, based on an experience of more than twenty-five years, will help you. Address:—



CEO. P. ROWELL & CO'S
Newspaper Advertising Bureau
20 Spruce St., New York.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, *profusely and handsomely illustrated*, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

HEALTH REFORM.—On the 15th of June the inauguration of improving the sanitary condition of Naples took place. King Humbert, accompanied by the Queen and Crown Prince, took part in the inauguration. According to the plans adopted, the poorer districts, where, in 1888, the cholera epidemic spread to such an alarming extent, will be thoroughly renovated. It is stated that 17,000 houses will be torn down, new streets constructed, and the main street from the central depot will pass through the district which now contains the most pestilential dwellings. It will require about ten years to complete the work.

A GREAT FUTURE.—Thomas A. Edison said in an interview with a reporter of the *Pittsburgh Dispatch*: "You ask me about the future of electricity. It is the coming motive power. It will be used on all railroads some day, but the point is to get an economical engine. My theory is to have immense dynamos located

all along the line of the road, and have the electricity conveyed from these stationary engines to the locomotives by wires through the rails. For example, I would put two big engines between New York and Philadelphia, and enough power could be furnished to whisk the limited at the rate of 100 miles per hour.

Two New Colors.—Two new colors are described in various recent technical journals. The first is apparently a reproduction of color known to the ancients, and made by them with sand and lime, heated with roasted copper. The pigment, on analysis, appears a compound silicate of lime and copper. It is now made with exact proportions of the materials, so that the product is uniform. The color is a bright greenish blue. The other color is black, which has been made by treating camphor with sulphuric acid. By steeping camphor in strong sulphuric acid a jelly-like mass is formed of a reddish color. When this is heated it boils, giving

off fumes of sulphuric acid, and turns intensely black. By evaporation the unconverted excess of acid and camphor is driven off and a black mass remains which seems to have the qualities of India ink. Like India ink, it can be apparently dissolved in water, and remains suspended for a long time.

SUEZ TRAFFIC.—It appears that the number of vessels which passed through the Suez Canal last year was 3,440, with a gross burden of 9,439,957 tons. The corresponding number of vessels which passed through the canal in 1887 was 3,437, with an aggregate burden of 8,430,043 tons; and in 1886 there passed 3,100 vessels, with an aggregate burden of 8,183,313 tons. The transit revenue collected last year was £2,593,291 compared with £2,314,494 in 1887, and £2,261,095 in 1886. Of the vessels which passed through the canal last year 2,625 were British, 187 French, 146 Italian, 163 German and 121 Dutch. No other country figured in the list for 100 ships.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

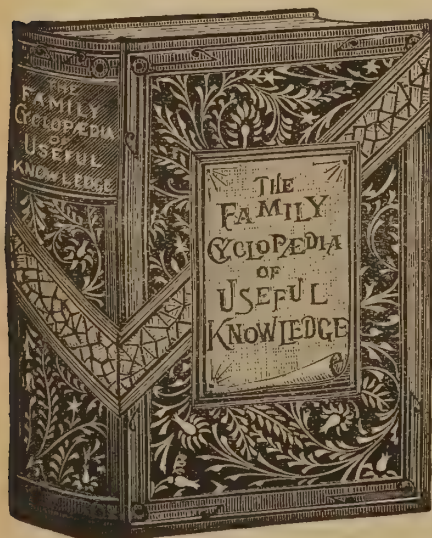
"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



Pyle's
Pearline
Possesses
Peculiar
Purifying
Properties

Hot Weather

is the very best time to try PYLE'S PEARLINE. Then the wash is largest, and a saving of time and toil is best appreciated. Think of doing a large wash with little or no rubbing. Consider how much longer your delicate summer clothing

will last if not rubbed to pieces on a washboard. A saving is a gain. You'll be surprised and pleased with the cleanliness, satisfaction and comfort which comes of the use of PEARLINE. Simple—any servant can use it. Perfectly harmless—you can soak your finest linen and laces in Pearline and water for a month, with safety. Delightful in the bath—makes the water soft. Perhaps you have been using some of the imitations and have sore hands and find your clothing going to pieces. Moral—use the original and best. Pearline is manufactured only by JAMES PYLE, N. Y.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price.	Analyst.		Price Including Regular American Price.	Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

OPPOSITE 5TH AVE. THEATRE.

When going to New York, stop at Sturtevant House, Broadway, cor. 29th Street. Very centrally located. American and European plans.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.



BLAIR'S PILLS

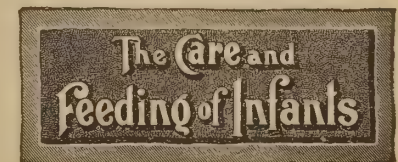
Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval box 34, round box 14 pills.
At all druggists, and 224 William St., New York



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

OUR MISSION.**WHAT THE AMERICAN ANALYST IS DOING.****FIGHTING ADULTERATION.**

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices. Also, Free-hand Drawing.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

A BOOK THAT EVERY LADY NEEDS. THE LADIES' GUIDE TO FANCY WORK.



How to make the Home Beautiful at small cost is a subject now uppermost in the mind of every lady of good taste. This book is a complete practical instructor in every description of Ladies' Fancy Work, and the only first-class work of the kind ever published at a low price. It contains nearly 300 illustrations, and the instructions given are so plain and simple that by their aid even a child may make the many beautiful things which the book describes. It gives plain and practical instructions in Drawing, Oil Painting, and making Wax Flowers; likewise all kinds of Fancy Needle Work, Artistic Embroidery, Lace Work, Knitting, Tatting, Crochet and Net Work. It contains designs for Monograms, Initials, Cross Stitch Patterns, Kalt Edgings, Embroidered Borders and Corners, Macrame Work, Applique Embroidery, Berlin Work, Java Canvas Work, Tricot and Burlaps, Antique Lace, Beaded Lace, Darned Net Work, Tulle, Lambrequins, Ottomans, Counterpanes, Rugs, Carriage Robes, Brackets, Wall Pockets, Waste Paper Baskets, Work Boxes, Work Baskets, Work Bags, Pen Wipers, Hanging Baskets, Catchalls, Pin Cushions, Footstools, Handkerchief Boxes, Glove Boxes, Card Baskets, Sofa Pillows, Table Covers, Table Scarfs, Screens, Scrap Bags, Hand Bags, Table Mats, Toilet Mats, Lamp Mats, Lamp Shades, Pillow Shams, Pillow Sham Holders, Curtains, Toilet Stands, Picture Frames, Slipper Cases, Letter Cases, Toilet Sets, Clothes Brush Holders, Cigar Boxes, Hassocks, Sachets, Fancy Purses, Slippers, Dressing Gowns, Music Portfolios, Knives, Cases, Fans, Flower Baskets, Plant Stands, Flower Pot Covers, Shawls, Dress Trimmings, Window Shades, Feather Work, Spatter Work, Leaf Photographs, and many other things. It is a book that should be in every American household. With it as a guide you may make hundreds of beautiful things for the adornment of your home and for presents to your friends at the most trifling expense, and no employment for ladies is more fascinating and useful. The book will repay its small cost many times over in a very short time. Every lady will be delighted with it. It is a large book of 64 large 3-column pages, with handsome cover, is finely printed, and, as above stated, contains nearly 300 illustrations. It will be sent by mail, post-paid, upon receipt of price, only **Twenty-five Cents**.

INVALUABLE TO EVERY HOUSEWIFE!

THE MODERN COOK-BOOK AND MEDICAL GUIDE.

This is practically two books in one—a perfect cook-book and a perfect medical book—and there is so much in it, and so much care and pains have been taken in its compilation, that we feel perfectly safe in asserting that the Cooking department is fully the equal, in quantity and quality of contents, of any low-priced cook-book published, and the same as to the medical department herein as compared with any low-priced medical work on the market. It is a complete encyclopedia of domestic information, and we fully believe that no lady, after having it in the house a short time, would willingly do without it for ten times its cost. The cooking recipes number 627, and include Breakfast Dishes, Soups, Meats and Poultry, Fish, Vegetables, Salads and Relishes, Bread and Rolls, Jellies and Preserves, Puddings and Pies, Fancy Dishes, Cakes, Confectionery, Ice Cream and Summer Drinks. The compilation of this department was superintended by a practical housekeeper, every recipe will be found reliable, and it has been pronounced one of the best, most complete, and practical cook-books published. The Medical Department will be found fully the equal of any doctor book published at one dollar or less. It tells you how to cure, by simple means, available in every home, Malaria, Pneumonia, Poisons (antidotes for), Nervousness, Measles, Rheumatism, Toothache, Wounds, Sprains and Bruises, Weak and Inflamed Eyes, Dust in the Eye, Sore Throat, Scald Head, Whooping Cough, Neuralgia, Earache, Worms, Warts, Burns and Scalds, Headache, Offensive Breath, Bleeding (to stop), Cancer, Consumption, Felons, Dyspepsia, Dysentery, Diphtheria, Diarrhea, Croup, Corns, Liquor Appetite, Coughs and Colds, Cold in the Head, Catarrh, Scarlet Fever, Nose Bleed, Baldness, Smallpox, Sleeplessness, Ringworm, Chilblains, Costiveness, Cholera Morbus, Bright's Disease, Convulsions, Mumps, Superfluous Hair (to remove), Hysterics, Colic, Sciatica, Biliousness, Nettle Rash, Typhoid Fever, Ingrowing Toe Nails, Abscesses, Stammering, Hemorrhage, Asthma, Hydrophobia, Scrofula, Bronchitis, Lockjaw, Erysipelas, Hoarseness, Chills and Fever, Dropsy, Bunions, Fits, Dandruff, Scurf, Quinsey, Heartburn, Styes, Liver Complaint, Cramp, Rheumatism, Onanism, Sunstroke, Knock-knees, Indigestion, Jaundice, Gout, Frick Heat, Salt Rheum, Fainting, Boils, Tobacco Habit, Gray Hair (to prevent), Cholera Infantum, Deafness, Stiff Neck, Piles, Choking, Freckles, Pimples, Sunburn, Chapped Hands, and many other ailments. It will save you many dollars annually in doctors' bills and patent medicines. Who can doubt that twenty-five cents invested in such a useful and valuable book as this would be the best and most profitable investment that could possibly be made of so small a sum? **THE MODERN COOK BOOK AND MEDICAL GUIDE** is a large book of 128 pages, neatly bound in colored covers. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

AVOID LITIGATION! BE YOUR OWN LAWYER!

EVERYBODY'S LAW BOOK.

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights, and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic Law, by a prominent member of the New York bar, containing concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Affidavits, Agency, Agreements, Apprentices, Arbitration and Award, Assault and Battery, Assignments, Attachments, Banks, Bills of Exchange, Checks and Promissory Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardian and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warrant, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executors' and Administrators' Accounts, Inventory Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value, and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. **EVERYBODY'S LAW BOOK** is a large volume of 128 pages, 12mo, with handsome cover. It will be sent by mail, post-paid, upon receipt of only **Twenty-five Cents**. Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

For School Exhibitions and Public and Private Entertainments.

The Complete Book of Recitations and Dialogues.

This book contains, so far as we know, the best and most complete collection of recitations ever published in a single volume. All the popular recitation books of the day have been consulted and the cream selected, and the result is a mammoth collection of recitations which cannot fail to answer every requirement. There are hundreds of them, and they embrace every kind and character of recitations, adapted to every need, humorous, dramatic and pathetic—from short juvenile pieces for the little boys and girls on Friday afternoons to pretentious dramatic works for the professional elocutionist. We have space to enumerate the titles of only a very few of them, as follows: "Ostler Joe," "Asleep at the Switch," "The Last Hymn," "The Deadman's Journey," "The Engineer's Story," "Cripple Ben," "Two Loves and a Life," "The Mother-in-Law," "The Old Parson's Story," "Taking Toll," "The Engineer," "The Tramp," "Tim's Daisies," "John Darry's Dream," "Too Late," "The Book-keeper's Dream," "Saving Mother," "Curfew must not Ring To-Night," "The Palmetto and the Pine," "The Polish Boy," "Drafted," "The Blacksmith's Story," "The Burning Prairie," "Guilty or Not Guilty," "The Foreclosure of the Mortgage," "The Clown's Baby," "Bill Mason's Ride," "How we tried to Whip the Teacher," "Driving Home the Cows," "Somebody's Mother," "When the Tide Goes Out," "The Old Farmer's Elegy," "Widder Spriggins' Daughter," "The Light-keeper's Daughter," "How the Parson Broke the Sabbath," "Which Shall it Be?" "Somebody's Darling," etc., etc. In addition to the Mammoth collection of Recitations contained in this book, it also contains a number of fine Dialogues, mostly humorous, among which are: "Marrying a Poetess," "What's in a Name?" "The Train to Mare," "The Graduate," "The Female Astrologer," "Proposing by Proxy," "Story-Telling," "The Morning Call," etc. Those who have sent for books of this character and been disappointed in them, owing to the meagerness and inferiority of their contents, will be happily surprised in this book, for not only is it the largest collection of Recitations and Dialogues ever sold at a low price, but great care has been taken in the selection of its contents, the aim being to include only the best. It is a splendid book, guaranteed to give satisfaction. **THE COMPLETE BOOK OF RECITATIONS AND DIALOGUES** is a large book of 64 large 3-column pages, with handsome colored cover. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF

THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the **AMERICAN ANALYST** for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the **AMERICAN ANALYST**. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

SWIFT'S

CHOICE

Chicago Dressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. VANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only THREE possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract. **WILLIAM ROBERTS, M.D., F.R.S.**

I have subjected "**Maltine**" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of **Maltine**, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. **R. H. CRITTENDEN.**

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to **Maltine** by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that **Maltine**—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that **Maltine**, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that **Maltine** will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alternatives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Fermented.
MALTINE with Hypophosphites.	MALTO-YEBERNE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain **Maltine** from all druggists in every part of the world. In cases where the physician intends to prescribe **Maltine**, the word "**Maltine**" should be written, and not simply the words "**Malt Extract**," or "**Extract of Malt**."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three **Maltine** compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the **AMERICAN ANALYST**.

FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superficial Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc.

Send 10 cts. for 128-page book on all skin imperfections and their treatment. **JOHN H. WOODBURY.** Dermatologist, 210 West 42d St., NEW YORK CITY, N.Y. P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs,

etc., which will assist and instruct

him in the sale of Harriet Hubbard

Ayer's Recamier Toilet Preparations

and Vita Nuova, should address THE

RECAMIER MFG. Co., 52 and 54 Park

Place, New York City.

GOOD AGENTS wanted to so-

licit subscriptions and advertise-

ments for the **AMERICAN AN-****ALYST.** Apply 19 Park Place,

N. Y.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK

WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

NEW PROCESS

GORDON & DILWORTH

563 & 565

TOMATO CATSUP

JELLIES, CANNED CORN, PRESERVES, SYRUPS, BRANDY FRUITS.

GORDON & DILWORTH

563 & 565

TABLE DELICACIES

GREENWICH ST.

NEW YORK

OLIVES, CAPERS, CATSUP, MINCE-MEAT, PLUM PUDDING, SALAD.

GORDON & DILWORTH

563 & 565

SALAD DRESSING

NEW YORK

CHOICE DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

Pure  **LAGER BEER,**

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled.

SPECIALLY FOR
HOTELS, CLUBS

AND
PRIVATE FAMILIES

BY
Beadleston & Woerz
291 W. 10th St. New York.

Orders by Postal Card 
 promptly attended to.

LEA & PERRINS' SAUCE.



Imparts the most delicious taste and zest to

The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

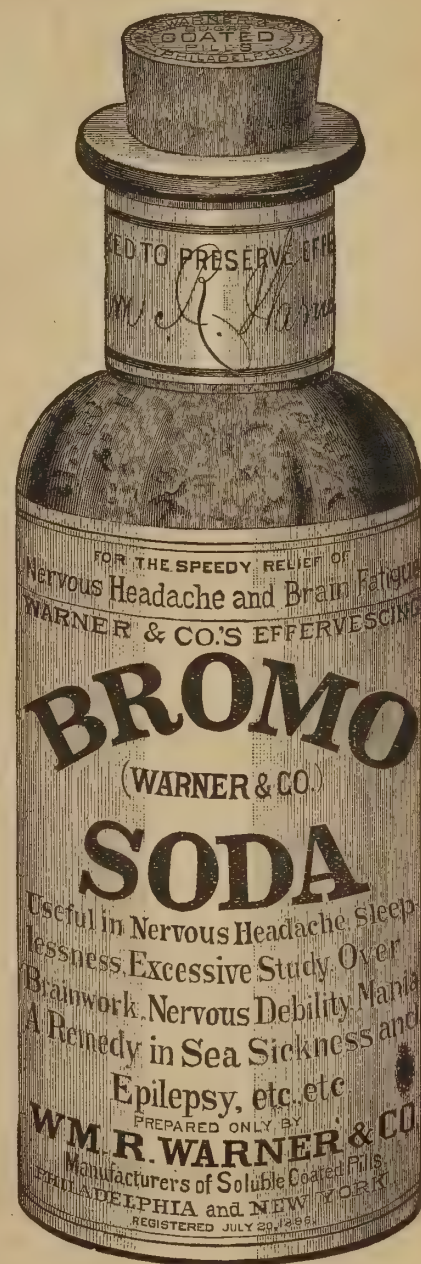


Sura Cura

A CURE

FOR

Sick and Nervous
HEADACHES.

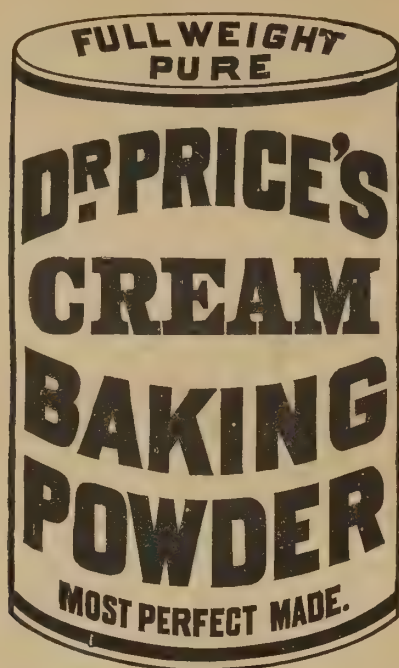


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the 'Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

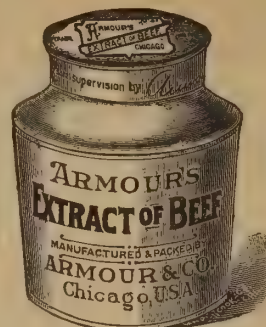
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

**ARMOUR'S
EXTRACT OF BEEF.**

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S
LIQUID
BEEF TONIC.

ORIGINAL LABEL:

"Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 33.

NEW YORK, THURSDAY, AUGUST 15, 1889.

WHOLE No. 129

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.

T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Chef, The, and His Domain.....	387
Clothes and Their Chemistry.....	386
Dinner Absurdities.....	388
Domestic Dietetics.....	388
Editorials.....	385
Adulterated Coffee; Those English Brewery Syndi- cates; California Brandy; A Despairing Whimper; Steam's Achievements; Boarding-House Analysis; The Metric System Extending.	
Peanuts.....	388
Prevention and Cure.....	387
Sense Intelligence.....	388

ADULTERATED COFFEE.

The laboratory of the Canadian Inland Revenue Department has lately had analyses made of eighty-five samples of coffee purchased from various dealers throughout the Dominion. Of these forty-one, or 48 per cent., were found to be adulterated. It is not to be supposed that this proportion represents the exact amount of adulteration which prevails. In many of the stores where the samples were purchased the purchasers were known as revenue officers, and may have been intentionally furnished with articles very much better in quality than those usually sold. There is good reason for supposing that even when pure coffee is asked for by ordinary purchasers they do not always obtain it. Among the forty-one samples of adulterated coffee nineteen were mixed with chicory or other substances free from starch; while twenty-two, besides nearly all containing chicory, had considerable amounts of roasted grain, peas or beans in their composition as well. Whatever some persons may say in favor of using chicory for that purpose, it is plain that the use

of roasted peas can have no defenders. Nor does it bring to the working man such a reduction in the price as would justify his purchasing a mixed coffee containing it. The price of the adulterated coffee is almost as much as the pure article. But taking even the lowest prices of 26c. to 30c. per pound, it is evident that such are high rates to pay for roasted peas. As much as 60 per cent. of chicory has been found in some of these cases. When it is considered that roasted chicory contains nothing in the shape of nutriment except sugar, and that it is owing to the presence of the latter, in a burned condition, that it is useful in coloring the decoction, it is difficult to see why any one should persist in using it. The truth is, that its addition is no improvement to the coffee; and if inquiry be made at those hotels and restaurants where a cup of good coffee is obtainable, it will be found that only the pure article is used in preparing it. There can be no justification for the sale of an article consisting of 60 per cent. of roasted grain with chicory and a little coffee. There can be no doubt that if good coffee were everywhere readily obtainable the consumption of alcoholic liquors would be very considerably lessened. There is here a good example to follow for those having the supervision of food products in the United States.

THOSE ENGLISH BREWERY SYNDICATES.

An advertisement in a recent number of the London edition of the New York Herald throws considerable light upon the methods employed to make the purchasing syndicates profitable to the promoters. Some time since Lyman's ale brewery in New York and Kaster's lager beer brewery in Newark were reported as having been sold to an English syndicate. From the advertisement mentioned it would seem that the proposed capitalization is \$1,400,000, with an additional \$950,000 so-called debentures, or altogether \$2,350,000—part at 8 per cent. and some at 4 per cent. Some of the statements of the abridged prospectus published would form interesting reading in any of our American daily papers, if the projectors dared to publish them; for to any one conversant with the facts they give little hope that the investors will realize any such profits as the alluring inducements of the prospectus hold out. It is only necessary to point out one or two of the most prominent features. The Lyman brewery is said to have been established in 1871, and therefore is one of the oldest in the city of New York. Of course, compared with England, New York is young, but she is not so young as to cause a brewery founded in 1871 to be classed among the oldest breweries. It is also said to have an artesian well giving an ample supply of the purest water. The artesian well may be there, but so far the Board of Health of this city has not been convinced sufficiently of the purity of any artesian well water in New York to allow its being used in breweries excepting for washing out barrels and kegs. The next statement is the most remarkable. The Lyman brewery is said to have "over 90 licensed houses or saloons tied to the brewery for

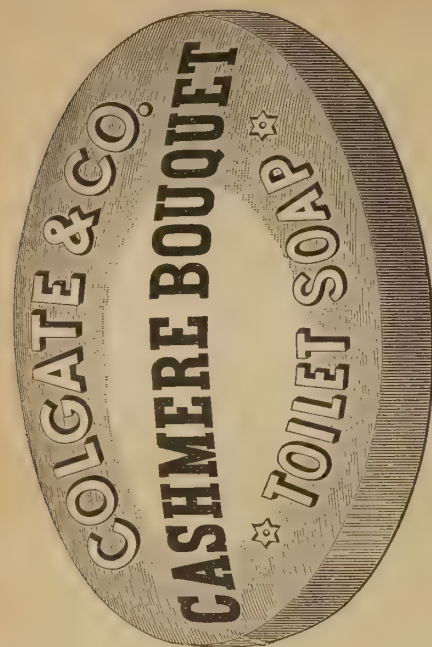
their ale and porter supplies by lease or mortgage." By uniting this ale brewery with the lager beer brewery, which latter also has 78 saloons "tied" to it, the hope is expressed that these "tied" saloons can be compelled to purchase their supplies from these breweries exclusively. The wonder is how the owners of these "tied" saloons will enjoy this peremptory method of dealing with them. Moreover, as Mr. Lyman is heavily interested in the Budweiser Brewing Company, which way will his pecuniary interests lead him?

CALIFORNIA BRANDY.

On the 2d inst. a number of prominent San Francisco capitalists met a committee of the Grape Growers' Association, and discussed a plan for relieving the wine industry of the State by distilling the surplus wines into a good uniform quality of brandy. It was agreed to organize a company with a capital stock of \$1,000,000, divided into ten thousand shares of \$100 each. One thousand shares were subscribed for at the meeting. The company is to be known as the California Brandy Union. Distilleries will be leased and constructed in those parts of the State where cheap grapes and wines are found in excess. A central bonded warehouse will be established in San Francisco. Agencies will be located in all the large Eastern cities, and in Hamburg and London. Of this year's surplus the company will buy 2,500,000 gallons, which it will distill into 500,000 gallons of brandy. Under such auspices, California brandy will soon gain a strong foothold. Great injury has been done to this industry by the too frequent practice of distilling the pomace of grapes for brandy instead of the wine. This dishonest method gives a spirit without any one of the characteristics of brandy. There is no reason why California brandy should not become a valuable export commodity, as well as a good pure spirit for domestic use.

A DESPAIRING WHIMPER.

The Butchers' Advocate has forgotten the old proverb about a cobbler sticking to his last, and in a recent issue attempts to argue law points about the constitutionality of the State inspection bills. With the usual result of such dabbling, our esteemed contemporary makes itself very ridiculous. It starts out with a wrong proposition or rather tries to make the basis of the argument, the false and exploded statement that the object of these inspection laws is the protection of the health of the people. The very fact that the Butchers' Advocate is so much interested in the bill disproves that assertion. It then goes on to prepare a brief for its counsel and in this again commits the fatal blunder of admitting that to make the inspection bills legal, it must be proved "that there are diseases to which cattle are subject—and which may be transmitted to man through eating of the flesh impregnated with such diseases—which cannot be detected after the animal



has been killed and dressed." It further admits that until this assertion is proven no court will decide in favor of the constitutionality of the law. For this very reason the decision of the learned Judge in Indiana, whom the *Butchers' Advocate* tries to belittle, will stand. He completely pricked the protection-to-health bubble and exposed the selfish motives of the local butcher monopolists in trying to use the fingers of our lawmakers and courts of Justice to pull their chestnuts out of the fire. We nevertheless readily concede that the *Advocate* is correct when it says that we will not have long to wait for an authoritative settlement of the question, but the question will not be settled in the way it fondly imagines. It will be settled on the side of common sense and Justice, and that is the side on which the *AMERICAN ANALYST* has stood all through the controversy.

STEAM'S ACHIEVEMENTS.

A very interesting calculation has recently been made by the Statistical Bureau in Berlin. Four-fifths of the power machines at present in activity in the world have been erected during the past twenty-five years. The country which possesses the highest amount of horse power is the United States, with 7,500,000 horse power; then follow England, with 7,000,000; Germany, with 4,500,000; France, with 3,000,000; and Austro-Hungary, with 1,500,000. These figures do not include locomotives, of which there are 105,000 at work, with a total horse power of 3,000,000. Thus the total horse power of the world is 46,000,000. A steam "horse power" is equivalent to three actual horses' strength, and each living horse represents the strength of seven men. Thus the total horse power of the entire world represents the work of 1,000,000,000 men, or more than twice the total working population of the earth. Steam has thus tripled the entire human work power of the earth.

BOARDING-HOUSE ANALYSIS.

The Chicago Health Officer who, according to the *Leavenworth Times*, resigned because he found the maintenance of health there too onerous at the price, has accepted, it is said, a situation as consulting chemist for a large hotel. It will be his duty to analyze all the food used in the hotel, and ascertain whether it has been adulterated or not. The idea is a capital one, and ought to be adopted by every hotel in the country. The *Times* suggests as an improvement that the result of the

analysis be published on the bills of fare, with the chemist's certificate. What a blessing it would be to know to a fraction—on the authority of an expert—just how much chicory there is in the morning coffee, how much sand in the sugar, how much water or chalk in the milk, how much sulphuric acid in the syrup! In the matter of "made" dishes, too, what revelations might not be expected! How charming it would be to know just what the chemical constituents are of hash and croquettes and chicken salad and the thousand and one compounds which appear on the menu under beautiful French names! Yet there are hotels, no doubt, which would rather not go to the expense of keeping a chemist and printing his analyses on the bills of fare.

THE METRIC SYSTEM EXTENDING.

At a recent meeting of the French Academy of Science, M. De Malarce, speaking of the extension of the metric system of weights and measures, gave some interesting figures. In 1887 the aggregate population of the countries in which the metric system was compulsory was over 302,000,000, being an increase of 53,000,000 in ten years. In 1887, in countries with a population of close on 97,000,000, the use of the system was optional; and the countries where the metric system is legally admitted in principle and partially applied (as in Russia, Turkey, and British India) had in 1887, a population of 395,000,000, being an increase of 54,000,000 in ten years. The increase is due to the growth of population in countries which had already adopted the system and to its adoption by new countries. The systems of China, Japan, and Mexico are decimal, but not metric. The metric system is thus legally recognized by 794,000,000 of people, and the three last named countries have a population of about 474,000,000. So that only about 42,000,000 of inhabitants of the civilized world have systems which are neither metric nor decimal.

CLOTHES AND THEIR CHEMISTRY.

A FEW SUGGESTIONS REGARDING THE MATERIALS WE CLOTHE OURSELVES WITH.

The first articles of clothing worn by mankind were, undoubtedly, made from the skins of animals, but, as civilization advanced, the arts of spinning and weaving became known at an early period, and wool, flax, and other animal and vegetable products were used to form fabrics of constantly increasing fineness and beauty. Wool the most important animal product used for clothing, is really the hair of the sheep, and has an analogous structure to the true hairs of other animals. Like hair, the wool fibres consist of an epithelium or outer coating, a rind or body, and the pith or marrow filling the hollow interior. The epithelium consists of small, thin plates, which overlap each other like the shingles of a roof, and to these plates or scales the wool owes its valuable felting quality. A microscope of moderate power will show this structure very plainly. Wool, when clean and pure, consists principally of an albuminoid sulphur-containing substance termed *keratin*, but, as it occurs on animals, it contains much dirt and suint. The suint contains a large proportion of greasy matter and potash, and is of considerable value as a source of potash. Silk is another animal product, but is not an organized structure, but simply a secretion of the silk-worm, the larva of the *Bombix mori*. The worm is produced from the egg in the spring, and, after casting its skin three or four times, spins a thread from a liquid secreted by two glands situated near its head, which immediately coagulates on coming into the air. This thread is double and completely, covers the worms, forming a cocoon intended to protect it during the change from larva to butterfly. The silk raisers, however, do not allow the transformation to take place, but kill the imprisoned worm, or *pupa*,

by the application of heat. The cocoon is composed of a single continuous thread but it is much too fine to manipulate, so the fibres of from three to twenty cocoons are unwound at one time and united into a single thread. This unwinding of the cocoons is a very delicate operation, and requires great care and skill. From 250 to 900 yards of raw silk fibre are obtained from each cocoon. Raw silk consists of two parts—the fibre or body, known as silk fibroin, and the gum-like substance with which it is covered, known as silk-glue or sericin. Only fibroin is secreted by the worm, but this is superficially oxidized to sericin when discharged into the air. For most purposes the sericin must be removed before the silk is spun and woven, but, when it is to be made into crape or gauze, it is allowed to remain. Silk is quite soluble in hydrochloric acid, and this reaction may be used to discover the presence of cotton or linen fibres when mixed with it. A microscopical examination is, however, the best and simplest test, as the smooth, solid, unorganized appearance of the silk fibre is very characteristic, and cannot be mistaken for cotton, flax, or wool. The silk-worm feeds almost exclusively on the leaves of the white mulberry tree, *Morus alba*, and their culture and rearing form a most important branch of agriculture in Europe. Other silk-producing insects are known and cultivated in China and India, but their product is small and unimportant. The culture of silk-worms in this country has not yet passed the experimental stage, although there seem to be no great difficulties to be overcome. The most important vegetable fibre is cotton, and the magnitude and value of this crop in the Southern States is well known. It consists of the fine plant hairs which surround the seed of the cotton plant, and is principally composed of cellulose. The seeds are separated from the cotton by machinery, and the fibres spun and woven into an endless variety of textile fabrics, with which a majority of the world's inhabitants are clothed. The microscopical appearance of cotton is very characteristic. It has the form of a flat, twisted band, and cannot be easily mistaken for other fibres. The cotton plant is cultivated in many other countries, especially India and Egypt, but the United States is still the principal source of the world's supply. Flax is the fibre of the flax plant, *Linum usitatissimum*, and its textile value has been known for a long time. The fibre lies under the bark, and is surrounded by a gummy pectose substance, which was formerly removed by soaking in water and exposing to the air till it rotted away, but acid and alkaline baths are now used for the purpose, with much more satisfactory results. The fibre is then separated from the woody matter of the stem by a process of beating and combing, known as *scutching*, and, after being cleaned, is ready to be bleached, spun, and woven into the beautiful fabric known as linen. Under the microscope, linen fibres appear cylindrical and strait, being thus easily distinguished from the flat-twisted fibres of cotton. The microscopical examination of the different animal and vegetable fibres is very interesting, and only requires an instrument of moderate power. Once seen, the characteristic form cannot be forgotten, and the knowledge is often useful in determining the quality of a piece of dress goods. Linen, like cotton, is principally composed of cellulose. Clothing possesses no warmth in itself, but, as it is a more or less poor conductor of heat, it prevents the escape of the bodily warmth. Woolen fabrics contain a large quantity of air entangled in their meshes, which, being a poor conductor of heat, adds considerably to the warmth of clothing made from them. In hot weather we wear light cotton or linen clothing, so as to allow as much of the bodily heat to escape as possible. There is a prejudice in favor of light-colored clothing for summer wear, but it is hardly based on scientific grounds. Dark-colored cloth is the best radiator, allowing the bodily heat to escape freely, while white clothing absorbs less of the heat radiated directly from the sun. Therefore, to dress scientifically in summer, one should wear dark clothing in the shade and light clothing

when exposed to the sun's rays. Practically, the matter of appearance is the only one to be considered, as the warmth or coolness of clothing is not appreciably affected by its color.—*Pop. Science News.*

THE CHEF AND HIS DOMAIN.

SOME OF THE KITCHEN MYSTERIES OF AN ENGLISH HOTEL.

The conspicuous fact about the kitchen of a good English hotel is its exquisite neatness. To produce this condition there is an army of scrubwomen with mops and pails and cleaning cloths, and from the big copper cauldrons at one side of the room, where soups are brewed, past the great row of shining tins suspended in the middle of the room, to the bank of glowing ranges at the other side—from the scrubbed floor beneath your feet to the white apron and black eyes of the chef at your side, everything shines. This is the chef's province. The chef not infrequently combines the sensibility of the artistic temperament with a good degree of education, and he will tolerate nothing unclean. He has been trained in Paris. Before acquiring the diploma of the French Cooking School, which he found necessary to the pursuit of his art at home, he was a pot-washer in the kitchen of some other artist, and he has served the long apprenticeship which most modern Americans consider themselves smart enough to do without. The opportunity of the French chef comes because we are willing to pay munificently for imported cooks, while our own sons starve genteelly in dry-goods stores. Even the cooks in many second and third-class hotels can boast of a Paris training. For, as not every actor can play Hamlet, so not every Parisian who goes to cooking-school becomes an artist. Many a Frenchman, who at home would be compelled to twirl the humble saucepan, is able to lord it over the kitchen of an English hotel, where he is endured because he is less extravagant and, on the whole, more useful than the cook from the provinces, who never saw even the outer wall of a cooking-school. The most widespread misconception of the duties of a chef is the notion that he cooks. He can cook of course, but he could do nothing else if he would never be a chef. His prime importance in the kitchen comes from the fact that he can make five or six other men cook at the same time. Of these assistants he requires everything except the composition of the sauces and the flavoring of the soups. No chef with the true artist-soul will admit that any "second"—as his first assistant is technically known—can make a fine sauce or give the proper savour to a consomme-royale or a Julienne. These be the inner mysteries of the temple, and profane hands must not be laid on them. If at your favorite hotel, the consomme is clear as amber, and nearly as strong as bouillon, while the flavor of the salad dressing inspires thrills of appreciation, your chef is an artist, and life under his ministrations is not likely to be resigned. If at the same time your chop is sometimes charred and your egg made stringy by exposure to too great heat, these are the blunders of the subordinates, and may be remedied by politely-phrased complaints to the chef. If, on the other hand, greasy globules float on the top of the soups, and the beef and mutton gravies taste suspiciously alike, then there is something fundamentally wrong with the kitchen, and the quicker you move the better. The trouble may be too few stock-pots, for these great copper tanks, with sizzling steam pipes running through them, hold a place in the kitchen economy hardly second to the ranges. The largest of them will hold a barrel, while the smaller sizes look like the domestic tin wash-boilers reproduced in copper. There are always three of these and frequently six. The largest is devoted to consomme, or plain beef stock, the foundation of all good soups. Into it are thrown great shanks of beef, the bones being broken so as to release the marrow, together with cuttings from various inferior parts of the animal,

but with the fat carefully removed. The pot is then filled with water, the steam turned through the pipes, and the mass boiled eight or nine hours, until all the nutriment is extracted from the meats. The liquid is then drawn off, strained, and allowed to cool, when it becomes a solid beef jelly. This is put away in the ice box, afterwards being cut and taken out in great "chunks" like cheese, and thinned and flavored for next day's needs. This second pot, equally large, is not so exclusive in its associations. Into it are thrown veal, ham, mutton, and poultry bones, trimmings from all these sorts of meat, the ends of raw tomatoes, celery tops and various vegetables. The resultant stock is finally flavored, but it is not clear, and so it is used for a bases for all the thick soup and vegetable purees. Though there are usually from one to four other stock pots, it is possible to supply all the soups of an extended bill of fare from these two cauldrons—with the aid of a French menu-card and a chef with an artistic taste for flavoring. In a first-class hotel, a third steam pot is devoted to poultry soups, a fourth to bisques or fish soups of various sorts, and a fifth to Espagnol, a soup that is the basis of all meat sauces, and for the flavoring of which various vegetables, including onions and garlic are carefully fried in butter. Ox-tail, mulligatawny, mock-turtle and special soups are made on a range as wanted. But "there are tricks in all trades," and the hotels where beef, mutton, veal and chicken soups are made from the plain beef stock, with the addition of a little meat of the required flavor at the last boiling, are far more common than those where the name which the soup is to bear on the bill of fare is kept in view during the earlier stages of its composition. Even in the houses of fine reputation, Espagnol and the puree of peas have been known on occasion to part company less than an hour before being sent to the dining-room.

PREVENTION AND CURE.

THE RELATIVE IMPORTANCE OF THE PHYSICIAN AND THE PLUMBER.

The question: "Does the plumber have the same confidence reposed in him as the family physician?" has been discussed. This question, of course, relates to the profession of each, and not to personalities, or to the character of each as men. The facts in the case must be presented and viewed as they exist. The practice of medicine is old, that of sanitary science comparatively young. Preventive medicine has not yet established its claim in all the habitations of men, while the practice of medicine—the art of curing disease—is coeval with man's history. So the plumber, as a sanitary agent, is new compared with the physician as a healer of disease. It is quite natural that our confidence is more thoroughly established in an old profession than in a new one. Besides, new ideas and new claims for old ideas grow slowly into common favor. There are many who will express belief in a new thing tardily just because it is new. There are tribes still existing in which civilization has not succeeded in replacing the ignorant sorcerer with the intelligent and learned physician. Houses right in our midst are built with utter disregard for all sanitary conditions, and the idea of constructing a building in conformity with even the simplest rules of hygiene is laughed at. Plumbing is, in many places, looked upon as a convenience and not as a necessity in the promotion of good health. The physician has grown into an age educated up to a proper consideration of his services. There are other facts to be regarded: When people fall ill they know it. When they are well they do not think of conditions apt to bring disease. When they are sick they desire to get well, or their fear of death leads them to secure the services of a physician. When they are well they have no such desire or such fear. They do not take time to think of a possibility

of inviting disease, and never take the precaution to have any one remove unsanitary conditions. In sickness the physician is a necessity. In health the plumber is considered a convenience. Here is where education is needed—that kind of education that will instruct in the practical rules of good health, and the means of securing healthful conditions. It is one of the duties now before plumbers and a part—and an important part—of the duties of every sanitarian and health officer in the country who wish to advance the cause of sanitation in a material and substantial way. The question relates most clearly and directly to the subject of sanitation. Were one to take from the physician his medicine chest and leave him equipped as the sanitarian he would hold the same relation to the public as the plumber does. His counsels and advice would be held in about the same light as the sanitary services of the plumber now are. Narrowed down to the actual point of differences, we would find that the medicine of the physicians and not so particularly the physician is the main object in which the confidence is placed. We would not destroy or weaken this confidence, but we feel that if we can in any way aid the public in placing the same confidence in the agencies that prevent disease as they do in those that cure them, we will be rendering them the greatest service it is possible to give. It is as proper and profitable to consult the plumber in his capacity before disease makes its appearance as it is to consult the physician afterward. The one, in the province of the plumber, means the prevention of disease, the other, curing it.—*Sanitary News.*

THE NEGRO'S SKIN.—The function of a negro's black skin is supposed to be the conversion of the sun's light into heat. The heat thus generated remains in the skin and does not penetrate to the deeper tissue. Being thus provided with a sun-proof armor, the negro can stand an amount of heat that would be fatal to a white man, and he runs hardly any risk of sun-stroke.

GEORGIA DISTILLERIES.—The number of applicants for fruit distilleries in the state of Georgia is reported by the collector to be unprecedented. Indications are that there will be in operation this year the largest number of fruit distilleries ever known in Georgia. The increase is attributed to the recent act of Congress, putting these distilleries on the same footing with grain distilleries in reference to the payment of the tax, extending the time from four months to three years. The outlook is that there will be a very large amount of Georgia fruit brandy on the market for some time.

HOME-MADE ICE.—In view of the threatened ice famine the following recipe for home-made ice given by the *Colliery Engineer* may be found of use: Take a cylindrical vessel and pour three and one-third ounces of commercial sulphuric acid and one and three-quarter ounces of water into it, and then add one ounce or powdered sulphate of soda. In the centre of this mixture place a smaller vessel containing the water to be frozen; then cover the vessel, and, if possible, revolve the whole with a gentle motion. In a few minutes the water in the small vessel will be converted into ice. The same mixture can be used a second or third time for making a block of ice. The operation should, if possible, be performed in a cool place—in a cellar, for example.

A MODERN FABLE.—There was once a Long-Headed Man, who invented a Household Utensil of such general Utility that instead of giving it a Name, setting forth an Intelligible Idea of its Character, he called it simply a Good Thing. So Proud was he of his Good Thing that he would not make its Existence known in the Press. "If People will not come in and ask for the Good Thing," he would say, "I don't Propose to go to the Trouble of Telling Them about It. If People don't Know It when they see It, they must Suffer the Consequences of their Blindness." When a Mortgage was Foreclosed on him a Little Later, the Successful Bidder Advertised the Good Thing in Several Papers, and he had Difficulty in Employing a Sufficient number of men to Fill the Red Wagons that Backed Up at his Door. The Moral of this Fable is in the Possession of our Advertising Agent, who will Disclose it in all its Variegated Beauty to all inquirers on receipt of Stamp for Return Postage.—*Puck.*

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

August.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, crabs, clams, flounder, halibut, herring, lobster, mackerel, mussels, porgie, prawn, salmon, turtle, trout, sturgeon, whiting, weak-fish, rockfish.

VEGETABLES.—Beans, beets, cucumbers, cabbage, carrots, cauliflower, corn, egg-plant, lettuce, onions, parsley, parsnips, potatoes, squash, shallots, spinach, turnips, radish, rhubarb, tomatoes.

FRUITS.—Cherries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple, grapes, plums.

PRACTICAL RECIPES.

BONE SOUP.—Break up about three pounds of beef or mutton bones and put them in a saucepan, with a tablespoonful of salt, a bunch of sweet herbs, and a little celery seed; cover with two or three quarts of cold water; skim it when it comes to a boil, and then let it simmer for about four hours. When done, strain and thicken with a small lump of butter, rolled in flour, rice or oatmeal.

BEEF HASH, WITH POACHED EGG.—Make a hash of boiled fresh or salt beef left from the preceding day, with one-half meat, one-quarter each of potato and apple, and a little minced celery; cook nicely, season, and serve on toast with a poached egg.

CENTENNIAL GEMS.—Take one quart sifted flour, loosely put in, two heaping teaspoonfuls Horsford's baking powder, a little salt, then sift, and add sufficient sweet milk and water, or milk alone, to make a thick batter, and drop with a spoon into the Gem baking pan. The mixing should be done with a spoon, and the batter should be as thick as can be conveniently stirred; do not mould it; use no shortening. Before mixing set the Gem pan on the stove, and let it get hot before filling.

CANDIED GINGER.—Put into a preserving pan one ounce of finely-grated ginger, one pound of sifted loaf sugar, and no more water than enough to dissolve the sugar; put the pan over a slow fire until the sugar begins to boil; add another pound of finely-sifted sugar, stirring it till it thickens, then drop it in cakes or plates, and dry them in a slow oven. When done they will be hard, brittle and white.

ASPARAGUS SALAD.—Cut off the points or heads of boiled asparagus and drain them. Put in a bowl one cabbage lettuce shred, but not too small; then add the asparagus heads neatly. Chop two hard-boiled eggs, whites and yolks separately; sprinkle the yolks in the centre of the salad, and the whites round the border. Serve with plain dressing.

DEVILED ONIONS.—Take four good-sized Spanish onions, skin and boil them, but not too much; when done, place them on a hot water dish; cut each onion into four parts; spread some made mustard and a dash of Cayenne on each portion, which should be replaced to the form of a whole onion; have ready a frying pan with boiling lard, to which some butter has been added; thoroughly dip each onion in egg and bread crumb, and put it carefully into the frying pan; fry till nicely browned, and serve smoking hot, with or without gravy.

BROILED LOBSTER.—Split the tail and chine; crack

the claws, pepper and salt them; take the body out of the shell, and clear the head of the part called the lady; replace the body within the shell, and then, with the claws and tail, put them on the gridiron; while broiling baste them with butter, and serve with melted butter.

DINNER ABSURDITIES.

FESTIVE SUGGESTIONS OF EDEN MUSEE HORRORS.

The London correspondent of the *Confectioner's Journal* relates the following incident, which illustrates the crowning absurdity of dinner table displays that has come to our notice: "A friend of mine was at dinner the other evening, which was quite unique, where the courses were punctuated with odd surprises that gives zest to the most appetizing sance in the universe—cheerful conversation. Standing beside the table was a life-size figure in wax of a pretty peasant girl carrying a basket. At the moment when a course of roast lamb was being served to the guests, attention was called to the figure by a slight noise. Then the lid of the basket opened and out popped a lamb's head, which uttered a plaintiff "ba-a-a-a." The girl then touched the head with her disengaged hand, whereupon the lamb retired and the lid of the basket closed. This incident excited conversation, as the *mecanique* worked wonderfully, and the effect was admirable. A plateau of flowers in the middle of the table seemed objectionably high, because it obstructed the line of vision between those sitting on either side of it. When the dessert was reached strains of music were suddenly heard emerging from the heart of the flowers. Slowly the plateau opened, the roses falling back right and left, and in the opening arose the figure of a fairy, which danced in tune to the music. These are certainly new accessories to dinner tables. I do not think the mechanical contrivances have been generally adopted yet."

SENSE INTELLIGENCE.

THE INTELLIGENT SENSE OF SMELL IN THE HORSE.

The horse will leave musty hay untouched in his bin, no matter how hungry. He will not drink of water objectionable to his questioning sniffs or from a bucket which some other odor makes offensive, however thirsty. His intelligent nostril will widen, quiver, and query over the daintiest bit offered by the fairest of hands. A mare is never satisfied by either sight or whinny that her colt is really her own until she has certified the fact by means of her nose. Blind horses, as a rule, will gallop wildly about a pasture without striking the surrounding fence. The sense of smell informs them of its proximity. Others will, when loosened from the stable, go directly to the gate or bars opening to their accustomed feeding grounds; and when desiring to return, after hours of careless wandering, will distinguish the one outlet and patiently await its opening. The odor of that particular part of the fence is their guide to it. The horse in browsing, or while gathering herbage with his lip, is guided in its choice of proper food entirely by his nostrils. Blind horses do not make mistakes in their diet. In the temple of Olympus a bronze horse was exhibited, at the sight of which six real horses experienced the most violent emotions. *Ælian* judiciously observes that the most perfect art could not imitate nature sufficiently well to produce so perfect an illusion. Like *Pliny* and *Pausanias*, he consequently affirms that "in casting the statue a magician had thrown hippomanes upon it," which, by the odor of the plant, deceived the horses, and therein we have the secret of the miracle. The scent alone of a buffalo robe will cause many horses to evince lively terror, and the floating scent of a railroad train will frighten some long after the locomotive is out of sight and hearing.—*Horse and Stable*.

PEANUTS.

EXTENSIVE CONSUMPTION OF CIRCOUS SEED IN THE UNITED STATES.

According to a correspondent of the *New York Evening Post*, 3,200,000 bushels of peanuts are consumed in this country every year. They come chiefly from Virginia and North Carolina, although Tennessee also produces a small crop. Peanuts are planted at corn-planting time. Each kernel produces a running vine, like crab grass, and each root produces about twenty pods. When ripe, the plow is run through the loamy soil on a dry day, just before frost. The nuts are dried and shocked up like corn to keep dry before housing. When marketed, they go to a cleaner, where they are put through steam power machines and polished, after which they are graded according to size and variety. This year there is but two-thirds of a crop, and they are higher in price than since 1884. The crop begins to come into the market about the first of September. The Virginia nut is the largest and finest. The Wilmington is a smaller sort, and the Spanish nut, a still smaller variety, is one whose kernels peel perfectly clean, thus making it valuable for confectionery.

IODINE AS A CURATIVE.

The more that remarkable substance iodine is studied the greater does its medicinal value appear to be. Every one is familiar with its extraordinary power when applied as a paint upon the surface of the body, and almost every one knows that when combined with an alkaline, as in the well-known form of iodide of potassium, it is the most efficient and beneficent alterative known to medical science. There are numerous other qualities and properties which have been discovered by savants that are not as well known to the public at large. Thus it has been determined that the hygienic value of sea water and of the ocean air is largely due to minute quantities of iodine held by the one in solution and by the other in suspension. Seekers after health tried for years to get the good effects of sea bathing in their bath-tubs by dissolving common salt in the water. The results were nearly inappreciable. They next tried rock salt, which contains among its other impurities very small amounts of iron, iodine and lime, and succeeded far better. Last of all, they used the salt obtained by evaporating the ocean brine, and then obtained the best results of all. Careful investigations into the nature and properties of the ancient and popular remedial cod liver oil, show that much of its virtue is due to the minute percentage of iodine which that substance contains. They also show, strange to relate, that the values of the different kinds found in the market bear a very close relationship to the varying percentage of that element. Two results of these inquiries are worthy of record. One was the experiment of a distinguished German chemist and physician, who charged vegetable oils, such as olive, peanut and cotton-seed oil, and animal fats, such as butter and beef drippings, with iodine of potassium, and obtained the same relief for his patients from their use as from the cod liver oil for which they had been substituted. Another was the now common practice of reinforcing or strengthening cod liver oil with small quantities of iodide. This process enables a skillful pharmacist to make the poorest grade equal to the best importation from Norway. A series of novel uses, consequent upon these investigations, has been the manufacture and introduction of combinations of iodine with other elements and organic radicals that were unheard of fifty years ago. It is now chemically combined with potassium, sodium, ammonium, lithium, iron, zinc, bismuth, and with at least fifty organic radicals. The physician has gone even further and mixed different iodides into one body, obtaining more certain, efficient and powerful action in at least a dozen cases. Thus today the iodide of zinc is universally acknowledged to be one of the best and most trustworthy antiseptics and

germicides known in surgery; and the "double iodides" have been adopted as the most efficacious simple alterative in the *materia medica*. Another and vital property is the power of the iodides to increase the medicinal action of many vegetable remedies, of which sarsaparilla, stillingia, yellow dock, podophyllin, and many varieties of the solanum family are the best illustrations. Some of these are rendered twice as potent by the addition of an inappreciable amount of iodide of potassium, while each and all have their potency materially enhanced. In the utilization of these great discoveries, one famous medicine and one great pharmacal manufacturer have led the world. Dr. J. C. Ayer & Co. were the first to perceive the importance of these scientific investigations, and, joining in the work, added largely to our knowledge of the curative properties of the iodides. Their labors found practical expression in their distinguished preparation, Ayer's Sarsaparilla, which from the start was adopted by the faculty in every civilized land as the sovereign blood purifier, and which holds its own to-day despite numberless followers and imitations wherewith the market has been flooded. In this celebrated remedy, the health-giving power of Honduras sarsaparilla, stillingia and yellow dock were largely increased by a quantity of the double iodides just sufficient in amount to give the former their highest efficiency and beneficence. This in itself was enough to earn the approval of every physician and scientist, as well as to gain the good-will of the general public. But beyond this they introduced the practice of buying the ingredients in vast quantities, at the very centres of production, so as to insure the best and purest material, and of employing the newest machinery, the latest processes of science and mechanics, and the highest grade of skilled labor. These, combined, enabled the great house to produce the best goods at the lowest prices, and to offer to the world in Ayer's Sarsaparilla an article which, for purity, uniformity and excellence, has never been approached in the history of medicine.

BUSINESS NOTES.

AN ENORMOUS TEA HOUSE.

When it is considered that the consumption of tea in the United States amounts to nearly two pounds yearly for every man, woman and child of the population the magnitude of the trade in that soothing herb can be conjectured. Among the large business houses that make a speciality of handling this commodity the great American Tea Company of 31 Vesey street, in this city, stands conspicuous. They claim that thirty years ago they organized the plan they have ever since followed of supplying consumers with tea at wholesale cargo prices by giving to their customers the profits usually secured by middlemen. The public have recognized the advantage of the new method that operated so effectively in their favor. One of the managers in a recent interview summed up the matter in the following words. "By taking into consideration the immensity of our business, and also the fact that we have very extensive connections with all the principal ports of

China and Japan, and that we import our teas direct from the place of growth, after having them selected by our agents in the best tea districts, expressly for our own trade, our customers can easily perceive that we can sell them better goods and at lower prices than any other tea house in the country." The result has been the business of the house has risen to very extensive proportions, comprising all the choice varieties of tea imported of all grades, besides the best coffees and baking powders. The housekeeper will do well to investigate the claims of the great American Tea Company before buying elsewhere.

STEEL HOOPS.—A corrugated steel hoop has been invented, which is said to be elastic and firm, hugging a package tightly. Four steel hoops will take the place of ten wooden hoops on a flour barrel. They are cheaply produced by the aid of electricity, a hoop being welded in two seconds.

MINIATURE EARTH.—One of the novel and interesting exhibits at the Paris Exposition is a model of the earth accurately made to a scale of one millimetre to the kilometre, or the one millionth part of its natural size. It is a sphere 12.732 m., or nearly 42 feet in diameter, having painted on its surface all the details of the earth's surface.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME
OF
ON LABEL,
AND GET
THE GENUINE

HARTSHORN

PRINTERS' INK.

A JOURNAL FOR ADVERTISERS.

PRINTERS' INK is just what it purports to be, "a journal for advertisers." It is issued on the first and fifteenth days of each month, and is the representative journal—the trade journal, so to speak—of American advertisers. It tells the intending and inexperienced advertiser in plain, comprehensive articles how, when, and where to advertise; how to write an advertisement; how to display one; what newspapers or other media to use; how much to expend—in fact, discourses on every point that admits of profitable discussion. If you advertise at all, PRINTERS' INK can help you. Perhaps you expend but Ten Dollars a year in advertising; if so, PRINTERS' INK may show you how to obtain double the service you are now getting for one-half the money. A year's subscription costs but One Dollar: a sample copy costs but Five Cents. Advertising is an art practised by many but understood by few. The conductors of PRINTERS' INK understand it thoroughly. Surely their advice, based on an experience of more than twenty-five years, will help you. Address:—



GEO. P. ROWELL & CO'S
Newspaper Advertising Bureau
20 Spruce St., New York.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3 1/4 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N. Y. P. O. Box 287.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alays the thirst, aids digestion, and relieves lassitude.

"Dr. T. C. Smith, Charlotte, N. C., says:

"An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop."

Dr. J. S. Niles, Pownal, Vt., says:

"Excellent as a tonic, and refreshing as a substitute for lemonade."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,
PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

THE DETROIT FREE PRESS SAYS:

In going to New York to stay a day, a week, or month, you want moderate prices and central location. The Sturtevant House, Broadway, cor. 29th Street is all that can be desired, and nearly 2,000 cars pass its doors daily.

MICHIGAN MINING SCHOOL.

For Catalogues, address

M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.

Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

RIDGE'S
FOOD

Will be found invaluable for **Cholera Infantum** and all Summer Complaints, children or adults. *It is not a medicine but will be retained & sustain life when everything else fails.* 4 sizes 35 cts. up.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pittings, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist, 210 West 42d St., NEW YORK CITY, N. Y.

P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices. Also, Free-hand Drawing.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GENTLEMAN at Madras, to his brother at WORCESTER, May, 1851.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most wholesome sauce that is made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

BUILDING

AN ARCHITECTURAL WEEKLY

PUBLISHED EVERY SATURDAY.

In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer and Decorator.

Subscription, \$6.00 a Year in Advance.

SAMPLE FREE.

THE BEST ADVERTISING MEDIUM OF ITS CLASS
PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS
AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.
Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY, 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
23 Warren St., New York.



The Edge Hill Wine Co.,
10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.
STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it.

Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION,** NEW YORK.

By ELLA RODMAN CHURCH.

[illegible]

The American Live Stock Manual.



Wounds; Brittle Feet; Worms; Over-Reaching; Sprains and Bruises; Hide-Bound Horses; Avoiding Indigestion; How to Save Acres in Feeding; Watering Horses; Care of Horse's Legs; How to Tell a Horse's Age; Neck Yokes; Good Grooming; Shoeing; To Make the Mane and Tail Grow; Box Stalls; Stables and Stabling; Breeding Horses upon Farms; Horse Education; Ringing a Bull; Relieving a Choked Cattle; Bone Disease in Milk Cows; Marks of a Good Horse; How to Break a Horse; How to Break a Horse to the Saddle; How to Break a Horse to the Carriage; Tongue; Lice; To Prevent Kicking; Contagious Cattle Diseases; Patterning Stock; Milking; Cooking Feed for Live Stock; The Solling System; Raising Calves; To Break a Heifer or Vicious Cow to Milk; Wintering Live Stock; How to Take Off a Hide; Assistance at Birth; Hollow Horn; Obstructed Teats; Black Leg; Caked Udder; Jumping Cattle; Garget; Care and Management of Horses; Giggers; Much's; Feeding; Sanitary Management of Horses; Cholera; Anthrax; Rabies; Preparing and Feeding Wine; Tethering; Tethering Dogs; How to Break a Horse; To Prevent Hogs Becoming Diseased; Raising Sheep; Washing Sheep; Sheep Rot; Hurling Sheep; To Tell the Age of Sheep; Sheep Ticks; Early Lambs; How to Make Sheep Pay; Spring Feeding of Ewes; Treatment of Lambs; Increasing the Growth of Wool. THE AMERICAN LIVE STOCK MANUAL is a large book of 128 pages, 12mo., with handsome binding. Price, \$1.00. Sent by mail for \$1.10. The price is but a trifle compared to the real value to every farmer.

THE COMPLETE BOOK OF HOME AMUSEMENTS.



correctly. As to CONJURUM, there are nearly a bushel of them, some so funny you will have to hold your sides with laughter, and what fun will be for one of the company to read the questions and see who can guess the answers! A considerable portion of the book is allotted to PARLOR MAGIC, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are the most interesting and profitable of all, the MAGIC OF THE STREET, and the MAGIC OF THE CIRCUS. The illustration of the simplest agents will produce the most surprising results. Following these are a number of excellent DIALOGUES, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest RECITATIONS, dramatic, pathetic, sentimental, and comic, ever written. Send for your copy of this book, and you will be able to perform the most interesting and profitable magic sent by mail, post paid, to any address, upon receipt of only Twenty-five Cents.

What most life we need is *more sunshine*. Let us banish care, have a good time, enjoy ourselves while we may. How much happier—how much better off—are those homes wherein the father and mother, and even the gray-haired grandparents, join with the children after tea in the gay games of amusement, than those wherein reticence and reserve so coldly demand that the children should ask, "What are we to do?" We really don't weary; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful one it is. It is a book of 100 pages, in a large, handsome, and in handsome covers, and is filled to the brim with good, conceivable things for the enlivenment of home. It is in reality *four books in one*, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It contains *ACTING CHARADES*, with full directions how to act them, and some of the most recent and the most amusing, easy, and acted yet very amusing. It tells all about the new "ACTING," and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful *TABLEAUX VIVANTS*, and gives full and explicit directions for performing them. In it are so many amusing things that you will be tempted to consult it, to read it, but we think we have almost everything new and old that you could want in it of the game line. Then come to a lot of wonderful *ILLUSTRATED*

OF THE

AMERICAN ANALYST

THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the **AMERICAN ANALYST** for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the **AMERICAN ANALYST**. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS.

The Analyst Publishing Co.

19 PARK PLACE.

NEW YORK.

UNEQUALLEDAsk your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.**DELICIOUS**

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.**

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.**SWIFT'S**

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,**UNION STOCK YARDS,****CHICAGO, ILLS.****A BUSINESS BENEFIT.**

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.	Price including Regular American Price. Analyst.		Price including Regular American Price. Analyst.	Price including Regular American Price. Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 60	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 25
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godley's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

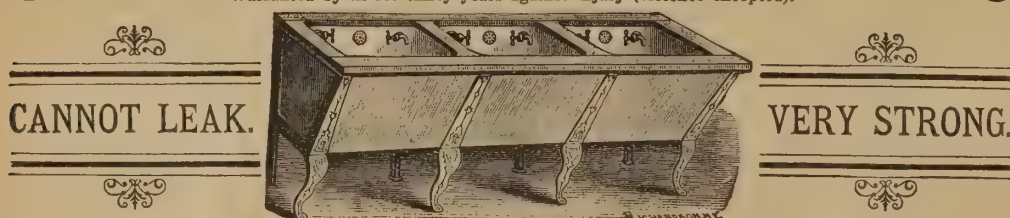
19 Park Place, New York.

STEWART CERAMIC CO.,**312 PEARL ST., Cor. Peck Slip, NEW YORK.**

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

**CANNOT LEAK.****VERY STRONG.**

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Wash tub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists,

Send for Illustrations and Price Lists.

OUR MISSION.**WHAT THE AMERICAN ANALYST IS DOING.****FIGHTING ADULTERATION.**

The steadily growing favor which the **AMERICAN ANALYST** is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the **AMERICAN ANALYST** has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the **AMERICAN ANALYST** is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the **AMERICAN ANALYST** also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the **AMERICAN ANALYST** does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the **AMERICAN ANALYST** will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM.

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition :	ALBUMINOIDS,.....	19 Parts.
	MILK SUGAR,.....	64 "
	FAT,.....	10 "
	MINERAL MATTER,.....	3 "
	CHLORIDE of SODIUM added,.....	1/4 "
	PHOSPHATE of LIME added,.....	1/8 "
	MOISTURE,.....	3 "

SEND FOR SAMPLE and compare it with every other food used in artificial feeding of Infants.

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. A SEDATIVE, NERVE AND BRAIN FOOD.

(GRANULAR EFFERVESCENT.)

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	WITH PUBLISH- ER'S PRICE. ANALYST.	DIGEST AND ANALYST.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly)....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the
Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.
Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE

VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS
Leading Numbers 14,048,128
130, 135, 333, 161.

— For sale by all stationers. —
THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
— WORKS — CAMDEN, N. J. —

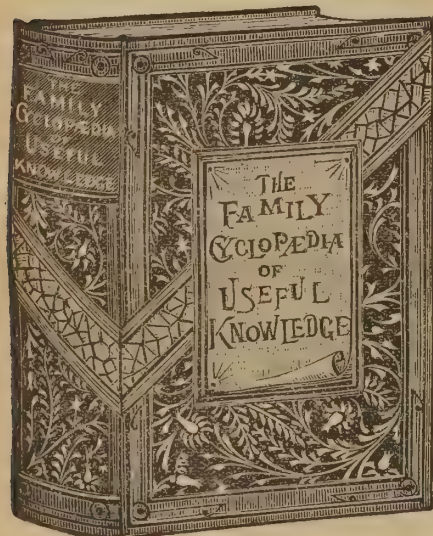


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 30 years use in Great Britain and the U. S. A sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 35c. up. Pamphlet, "Healthful Hints," sent free. **WOOLRICH & CO., Palmer, Mass.**

A VALUABLE BOOK FOR NOTHING.

The **AMERICAN ANALYST** will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

— 19 PARK PLACE, NEW YORK. —

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.
MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

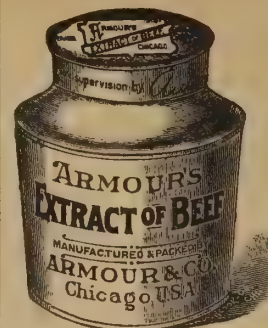
ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.
PRICE BAKING POWDER CO., New York. Chicago. St. Louis.



[SOLID.]

**SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.**

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

**INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,**

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

ORIGINAL LABEL:
"Colden's Liebigs Liquid Extract of
Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, (Inchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

**C. N. CRITTENTON, Sole Agent,
115 Fulton Street, N. Y.**

Please Mention the AMERICAN ANALYST.



The Most Reliable Food
For Infants & Invalids.
Not a medicine, but a specially
prepared Food, adapted to the
weakest stomach. 4 sizes cans.
Pamphlet free. Woolrich & Co.
(on every label), Palmer, Mass.

"BILLET"

are

Carefully Selected
French Gardines,
Lacked in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

**JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY-STRENGTH.**

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.

The Standard of Excellence.

**KINGSFORD'S
OSWEGO**

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 34.

NEW YORK, THURSDAY, AUGUST 22, 1889.

WHOLE No. 130.

American Analyst, PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Beer at Home.....	400
Brown-Sequard's Elixir.....	399
Clarets, Famous.....	398
Domestic Dietetics.....	400
Editorials.....	397
Another Dressed Beef Triumph; To Test Coffee; American Corn in France; Chemistry's Creations; Disease, Modern and Ancient; Wives in India; Branding Bees.	
Hot Weather.....	399
New Books.....	400
Pins, Ancient and Modern.....	400

ANOTHER DRESSED BEEF TRIUMPH.

In the case of the anti-law beef conspirators, the "mills of the gods" have recently been grinding not only "exceeding fine," but with cheerful rapidity. Little by little, but with unintermitting regularity, their absurd pretenses are being wiped out by the courts in every State in which the legislatures last winter were bamboozled into connivance with the schemers. The most recent case reported was at Duluth, Minnesota, that being one of the States that had been apparently captured. A dispatch from that city, which, by the way, is the place immortalized by Proctor Knott some years ago as "the umbilicus of the world," dated August 13, says: "Yesterday Alfred F. Christian, the local manager of the Armour Company, acting under orders from Chicago, began selling Chicago dressed meats. He was at once arrested and fined \$50. Refusing to pay this fine, he was committed to the county jail, but later was permitted to give bond until a writ of habeas corpus could be argued and a decision rendered, the argument

being set for this morning. When the case came up to-day both Judges Stearns and Ensign were on the bench. City Attorney Smith presented the argument in favor of the law and of holding the prisoner, while John P. Williams appeared for Christian and the dressed meat company. The Court said that the law was plainly unconstitutional, infringing both on the right of inter-State commerce and of trade, and ordered the release of Christian.* Possibly, by this time the *Butchers' Advocate* appreciates the significance of what it claimed lately the AMERICAN ANALYST left "open to inference."

TO TEST COFFEE.

The Chief Analyst of the Dominion Department of Inland Revenue publishes the following directions to his collectors of coffee samples for making their preliminary tests. It is Hager's method modified by Mr. McGill, and is very simple:

"Prepare a saturated solution of common salt. Shake up a small quantity of the coffee to be tested with ten times its bulk of the brine, in a test tube at least three-quarters of an inch in diameter. Repeat the shaking twice, so that the coffee may be thoroughly wetted and then allow the tube to stand for half an hour. Observe then the color of the brine, and the quantity of the sample floating on the surface, as well as the amount deposited at the bottom of the tube. If the color is a very pale amber, and nearly the whole of the coffee floats, the sample may be assumed to be pure. A decidedly darker or yellow tint indicates admixture of chiccory, etc., in which case there is also a larger deposit. This increases and the color of the brine grows darker with the impurity of the coffee. With 30 per cent. chiccory the brown color is very marked, and with a still larger percentage of adulterant the brine becomes dark brown."

AMERICAN CORN IN FRANCE.

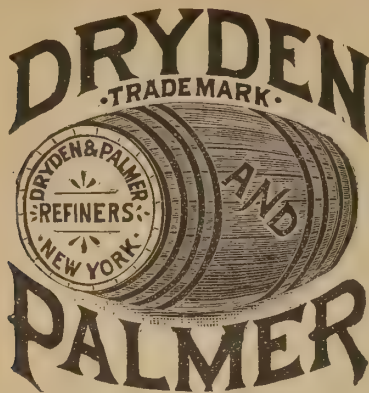
The effort, which the AMERICAN ANALYST suggested and which at one time bade fair to succeed, to bring the special advantages of Indian corn to the attention of the European world through the instrumentality of the Paris exposition, failed through the apathy of persons in this country most interested in its success. Mr. Charles J. Murphy, who proposed to erect a corn palace at the Paris exposition to be devoted to a display of the various uses of Indian corn as a food article, writes from Paris to a friend in this city, under date of August 1, explaining why the exhibition failed of success. Mr. Murphy says:

"Ever since the Paris Exposition of 1878, when the United States made a very poor agricultural showing, I have waited for an opportune time to exemplify to the world what could be done with our Indian corn as a human food. I concluded the time had come for this display at the Paris Exposition. I laid my plans before the New York Produce Exchange, the President of which appointed a committee, with ex-Mayor Franklin

Edson as chairman to further my project. I then went West and made strong appeals to the produce exchanges of the corn States to help the movement with subscriptions. Circulars were also sent by the New York committee to some eighteen of these commercial bodies, including Baltimore and New Orleans, urging assistance. The principal produce exchanges and boards of trade in the West appointed committees to solicit subscriptions, and the only money raised was \$360 at Buffalo, which was afterward returned. New York City subscribed \$1,050. Congressman Townsend, of Illinois, introduced a bill in Congress proposing to grant a special appropriation, but Congress adjourned without action. Similar bills were introduced in the Legislatures of Ohio and Illinois, but they too failed of passage. I then came to Paris in hope that General Franklin, the United States Commissioner, would at least erect the building at a cost of \$2,500 out of the \$250,000 appropriated by Congress; but he refused to give one dollar for this exhibit, which would have been of more practical value to the farming interests of the United States than all the other American exhibits (such as they are) combined. The French authorities generously gave the site without a charge, which they valued at \$12,000. It is to be regretted that a movement should fail, which, if successful, to use the words of the United States Commissioner of Agriculture, would enhance the value of every acre of land in the corn belt. In conclusion, I would like to make my most grateful acknowledgments to the press of the whole country, who gave the movement their heartiest support."

CHEMISTRY'S CREATIONS.

One of the most promising of scientific investigations is that which is directed to the work of accomplishing by synthesis organic results similar to those produced by nature. We know, for example, that many mineral, vegetable and animal substances are the results of compounds made in the laboratory of nature. The scientist can take a vegetable or animal product and by analysis determine the quantity, and even the quality, of the various substances which have entered into its composition. But when he has determined that there is so much of this, that or the other, and has attempted, following out this formula, to blend these substances together for the purpose of producing results similar to those found in nature, he has learned that the operation will not work. There has been something wanting, something that has defied analysis, and yet so essential that without it the desired material could not be produced. Of late the science of chemistry has made some very marked advances in the direction of solving this difficulty. It has been found, for example, possible to manufacture glucose in the laboratory out of the simple elements in the same manner that glucose might be produced by making use of vegetable matter, and this is doubtless but the beginning of a long series of chemical discoveries which may permit us to make, not only in laboratories, but in factories, many materials without being compelled to wait for the slow processes of nature. The time may come when, by combination of gases and other simple elements, the chemist will be able to turn out, with but slight labor, the various materials that are needed for the food of man. But before



ROCK CANDY and ROCK CANDY SYRUPS.

For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

this plan can be fully developed it will be necessary, perhaps, to discover that at present greatest of all mysteries, what it is that constitutes life? And yet there is this to be said, that while chemical science is able to produce chemical isomerics, so far it has utterly failed to make these isomerics practically useful.

DISEASE, MODERN AND ANCIENT.

We observe that a number of our contemporaries are adopting and pursuing the line of argument presented by the *AMERICAN ANALYST* recently in repudiating the notion that the greater differentiation of diseases of the present day indicates an actual increase in the maladies to which humanity is subject, over those known by our ancestors. The *Popular Science News* of Boston says truly that there "are no more real diseases than there were a hundred years ago, but, with our increasing knowledge, we are able to observe differences not then noted, and to separate into distinct diseases, each requiring different treatment, certain affections which were formerly grouped together under one general name. Pneumonia, for instance, was rarely heard of in former times, but "lung fever" was none the less fatal, and even more to be dreaded in the absence of any rational method of treatment. Before the general use of the microscope and chemical reagents for testing the urine, diabetes, Bright's disease, and many others were not thoroughly differentiated, but were called by the general name of kidney trouble, and were just as common as in these modern times when "safe" and infallible cures are advertised for sale at every drug store. The forms of brain disease accompanied by paralysis were in existence long before the term paresis was introduced into the medical vocabulary, and the victim of alcoholic dementia is not favored with the sight of any more zoological curiosities than his predecessor who merely had the common jim-jams. 'Heart failure' is the latest term of this sort employed to indicate the cause of death, and is a most unfortunate one. It really has no meaning at all, for the failure of the heart to do its work always occurs at the end of life. It may be said that death is always caused by the failure of either the heart or lung to perform their duties, and that the various forms of accidents or disease are only indirect causes, including such failure. Heart failure is not a disease, but the result of disease, and there is nothing new about it whatever. When applied to organic or functional diseases of the heart it may have some significance, but such a general term had best be used only in a very general sense.

Subscriptions \$1 per year. Now is the time to subscribe.

WIVES IN INDIA.

The *Bombay Guardian* calls attention to an extraordinary book which is being distributed broadcast as a prize book in the Government girls' schools in the Bombay Presidency. The following quotations are given as specimens of the teachings set forth in the book:

"If the husband of a virtuous woman be ugly, of good or bad disposition, diseased, fiendish, irascible, a drunkard, old, stupid, dumb, blind, deaf, hot-tempered, poor, extremely covetous, a slanderer, cowardly, perfidious and immoral, nevertheless she ought to worship him as God with mind, speech and person. The wife who gives an angry answer to her husband will become a village pariah dog; she will also become a female jackal and live in an uninhabited desert. The woman who eats sweetmeats without sharing them with her husband will become a hen owl, living in a hollow tree. The woman who walks alone without her husband will become a filth-eating village sow. The woman who speaks disrespectfully to her husband will be dumb in the next incarnation. The woman who hates her husband's relations will become from birth to birth a muskrat living in filth. She who is always jealous of her husband's concubine will be childless in the next incarnation." To illustrate the blessed results of a wife's subservieny, a story is told of the great reward that came to the wife of an ill-tempered, diseased and wicked Brahmin, who served her husband with a slavish obedience, and even went the length of carrying him on her own shoulders to visit his mistress. The British Government in India, says the *Woman's Journal* of Boston, has bound itself not to interfere with the religion of the natives, but it certainly ought not to inculcate in Government schools the worst doctrines of heathenism.

BRANDING BEES.

The general term of the Supreme Court in the central part of this State has decided that it is trespass for honey bees to go upon lands not belonging to their owner. This may be good law, but the wonder is how this law is to be carried out. It perhaps will offer a new field for the rubber stamp men to affix the owner's initials to the bees' feet, or Mr. Edison might invent some electric appliance by which trespassing bees could be made to leave their mark, or nature, perhaps, would be sufficient if the bees would notify the owner of the land where the trespass is committed by presenting their business end as a sort of card of identification, or the owners of the bees might brand them. Otherwise we cannot see how this decision will help those who are trespassed upon.

FAMOUS CLARETS.

WHERE THEY COME FROM AND HOW THEY ARE NAMED.

A writer in the current number of the *Universal Review* of London gives a description of some of the actual castles which have given their names to the most familiar clarets. Chateau-Margaux, he says, stands at a short distance from the little town of Margaux, built at a careful distance from the sometimes turbulent Gironde. The present structure is a massive pile that dates back not further than the second or third year of the century. It stands on the site of an ancient castle built in the fifteenth century, which played its part in any little war going forward in the neighborhood. It was only in the middle of the eighteenth century that the then proprietor discovered in the pebbly black earth peculiarly favorable conditions for the culture of the vine. He began to plant, and gradually, through a hundred years, the wines of the Chateau-Margaux grew in fame. In 1802, when chateaux were going cheap, this was bought by one of the new Emperor's new Marquises, who pulled down the old chateau and built the modern-looking pile which now

stands in its place. In 1879 the chateau and the vineyard came into the possession of Count Pillet-Will. Chateau-Lafite he describes as near Pauillac, a quaint old port on the Garonne, whence is shipped the produce of the teeming vineyards divided by the marsh of Pibran. It has escaped the hand of the demolisher, and stands as it did in pre-revolutionary days. When Louis XVI. was parleying with the angered populace of Paris the chateau belonged to M. de Pichard, President of the Parliament of Guienne. But there were too many Presidents about; so M. de Pichard was taken to Paris and there guillotined. The next step was to write on the walls of the chateau the magic words "Propriété Nationale." House and vineyard were put up for sale, and brought into the national coffers a trifle over 1,000,000 francs. In 1818 they were sold for something less than was given in the revolutionary days, and in 1868 Baron James de Rothschild gave upward of 4,000,000 francs for the property. It now belongs to the heirs of Baron James, Barons Alphonse, Gustave, and Edmond de Rothschild. Like Chateau Margaux and others of the more famous chateaux, the stately rooms of Lafite are tenantless. Not so the cellars, the private cave of the Rothschilds containing 80,000 bottles of the finest wines, not only of Medoc, but of Spain, Germany, and Italy. After describing some other less famous chateaux, he says of some of the secrets of viniculture: "We islanders have a vague impression that the chief thing necessary for a vine-growing country is plenty of sun. The heat and life-giving properties of the sun are undoubtedly essential; but the soil is everything. In the Medoc the limits of the most famous vineyards are marked with strange arbitrariness. Here, where an irregular line is arbitrarily drawn, grow the vines that make the wine of Chateau-Margaux or Lafite. A handsbreadth outside its vines truly grow, but produce wine of quite a different quality. What the vine likes is that stony ground scorned in the parable of the seed scatterer. It loves above all things the crevices of a rock into which its roots penetrate, hardening the plant and imparting a special flavor to the wine. A Medoc wine-taster can tell at a sip what sort of ground a bottle of wine has grown in. A stony subsoil imparts a distinct fineness of taste to the wine, while that grown on a stony layer is marked by greater body and vinosity. While vast quantities of wine in the Medoc are bottled at the end of the second year, the fine wines are kept in casks until the third or fourth year. Once in bottle, well corked, the mind of man may be at rest about his wine, which, up to a certain limit of time, goes on improving. Where occasion for care again presents itself is in getting the wine out of the bottle without shaking. Most wine pantries are furnished with a small basket in which the wine bottle may rest while the wine is drawn into the decanter. Wine merchants, wine tasters, and experienced wine drinkers in the Medoc do not trouble themselves about these contrivances. They carefully lift the bottle from a horizontal to an upright position some three or four hours before it is wanted for the table. At the same time they carefully mark the side of the bottle that has lain uppermost, and in decanting pour out the wine from that, as it is sure to be free from crust. With steady hand they draw from a bottle a maximum quantity of absolutely clear, bright wine. Any one who desires to drink a good glass of Medoc or Burgundy will not decant it till almost the moment it is required, thus preserving the freshness of the aroma. Good wine needs no bush; but in our climate (which, by the way, the experts of the Medoc declare to be the best possible for storing fine wines) it is better for a little warmth. Rather than drink red wine in the winter months drawn from a cellar in which the temperature has not been maintained at a desirable pitch, it is better to put the wine where it may feel the fire. A better way still is to leave it on the mantelpiece of the dining-room for four or six hours before it is to be decanted, when it will have had an opportunity of acquiring something like the temperature

of the room. It is well worth while warming the decanter before pouring in the wine, so that it may not receive the shock of contact with the cold glass. Some hosts possessing red wines that deserve a better treatment brutally serve them up cold out of the cellar, a barbarity equaled only by bringing in the fish half done or the soup lukewarm. In such emergency Providence has supplied man with an effectual remedy for the oversight. The palm of the hand closed round the filled glass will—if the glass is thin, as it should be—speedily bring the wine to the desired temperature. The best wine year in the records of the Gironde is the year which saw the battle of Waterloo and the downfall of Napoleon; 1864 and 1875 are the wines now in bottle which stand highest in the appreciation of the wisemen of Medoc. It is not always that a good year for champagne turns out a favorable season for red wines; but the year 1874—a year spoken of reverentially by champagne drinkers—was not less happy for red wines. The proprietors were fortunate in enjoying a time of peace, and got big prices for their products. The years 1877 and 1878 were excellent ones for the Medoc, and 1888, another fine year for champagne, was, for the Medoc, a season of only ordinary vintage. The 1881 crop was well harvested, and on the whole a good year. Eighteen hundred and eighty-four was not so good for red wine as for champagne; but 1887 was on the whole fair, but not likely to be memorable. The 1888 crop, I hear upon highest authority, 'has come on splendidly since the vintage.' Contemporary interest in these dates is sorely limited. It is said that some wines of Medoc, notably those of the Chateau-La Lagune, a wine little known in this country, preserve all their virtues after being forty years in bottle. But for the best wines and the ordinary palate thirty years in bottle is long enough. A bottle of Chateau-Margaux of 1869, Chateau-Lafite of 1864, or Chateau-Latour of 1875, may be warranted to fulfill the highest aspirations of the nicest and most exalted palate."

HOT WEATHER.

WHAT CAUSES IT, AND WHEN IT OCCURS.

The original source of the summer's heat is the sun, but many local causes tend to modify and vary the action. The earth is really farther from the sun in summer than in winter, so that the warm weather does not depend upon the greater proximity of the source of heat. It is due to the fact that in summer the northern hemisphere is turned more directly towards the sun, so that it receives its rays in a more vertical direction, while in winter it is turned farther away, and the more oblique heat rays are unable to raise the temperature to any great degree. The varying length of the days is also an important element, as the long days of summer allow the earth to be exposed for a longer time to the influence of the source of heat. The thermal summer—that is the period of the greatest heat—does not correspond with the astronomical summer. On June 21st the sun's rays are most nearly vertical, and the earth is exposed to their influence for a greater proportion of the twenty-four hours, but the hottest weather is not generally experienced till about a month later, and similarly, the greatest cold does not occur until after the winter solstice. A certain amount of time is necessary for the increasing heat of the approaching summer to counteract the cold of the preceding winter, and *vice versa*. A similar delay is noticed in the daily fluctuations of temperature; the hottest part of the day is not at noon, but about three o'clock, while the lowest temperature of the night is reached in the early morning hours. As might be expected, the highest temperatures of summer are accompanied by southerly or southwesterly winds, blowing from the heated lands to the south of us, or from the tropical waters of the Gulf of Mexico. The oppressive nature of this heat is largely due to the high percentage of moisture which the air contains. This tends to

check the insensible perspiration, which the body is continually throwing off and produces a general feeling of lassitude and discomfort, familiar to everyone. In the dry light air of mountain regions, a much greater degree of heat may be borne with less discomfort, than is produced by a lower temperature with a higher percentage of humidity. Under all circumstances the temperature of the healthy body is about the same, not varying much from 90 deg. If, from sickness or any cause the temperature rises a few degrees above this point death soon occurs, and one of the most important matters in cases of fever is to reduce the bodily temperature; but, usually, the wonderful vital processes regulate the internal fires very accurately, and the bodily temperature is constant, whether exposed to the rigors of an Arctic winter, or to the extreme heat endured by the iron-smelters in their daily toil. After a longer or shorter period of hot weather the wind changes, and a current of cool air comes from the far northwest, bringing comfort and strength once more. These northwesterly breezes are the same which produce the "cold waves" of winter, and their exact origin is uncertain. They are however invariably dry and cool and are always accompanied by fair weather. They are a quite peculiar feature in the American climate, and the most agreeable and delightful one. The sea breezes of the coast are a local phenomenon, and are due to the difference in the temperature, and consequently to the specific gravity, of the air over the land and water. The land absorbs much more heat than the water, and, towards the middle of the day, the overlying air becomes so warm and light that it is forced by the heavier air over the water, and a steady current of the cooler air flows inland. The waters of the New England coast, north of Cape Cod, being cooled by the current from the Arctic ocean, produce this phenomenon very frequently. The dog-days are an indefinite period of time, when hot, sultry weather is supposed to be especially common. The date is given differently in different almanacs, but usually includes the time from the last of July to the first week in September. In ancient times it was supposed to be governed by the time when Sirius, or the dog-star, arose at the same time as the sun, but the dates are now widely separated and, in fact, the dog-days have no more real existence than the Indian summer, the equinoctial storm, and many other meteorological superstitions. In many seasons we have found from actual observations a larger number of hot, sultry days in June than in August. It is often said that a thunder-storm clears the air, but this is a common error, where cause and effect are confused. Cool, clear weather does not by any means invariably follow a thunder-shower, but, at the end of a period of heat, the current of cooler air which brings a change of weather is also very likely to develop such a disturbance. The clearing of the air, therefore, is not the result, but the cause of the thunder-shower, or, rather, the cool weather and the storm are both due to the same cause—a sudden inrush of cooler air. After all, the American summer is certainly a trying and disagreeable season, but as it is one of the things that must be endured, the only way is to make existence as easy as possible during its continuance. Over-exertion and exposure to the direct rays of the sun should be avoided as much as possible, and cooling drinks and light, nutritious food should take the place of the heavier viands needed during the more bracing winter season. Ice is an excellent thing, but must be used with judgment; too much ice-water or frozen food is bad as a moderate amount is healthful and refreshing. Fortunately, the heated term is a comparatively short one, and the cooler winds of fall and winter come all too soon to those who have made the most of the opportunities for out-of-door life and exercise which the summer has brought them.—*Pop. Science News*.

Subscriptions \$1 per year. Now is the time to subscribe.

THE BROWN-SEQUARD ELIXIR.

ITS MERITS BEING CAREFULLY TESTED IN THIS CITY.

At the Loomis Laboratory, an annex to the New York University Medical College in East Twenty-sixth Street, the most extensive experiments with the Brown-Sequard elixir of life made in this city are now going on. Dr. Loomis and his associate, Dr. Byron, intend to inoculate fifty, and perhaps a hundred, before they publish the results of their experiments. Dr. Byron said last week that thus far they did not consider that they had arrived at any definite result. Although nearly all of the seven patients that had been inoculated profess to feel very much better, the doctors do not consider their protestations worth much. For, while none of them knows that it is Dr. Brown-Sequard's elixir which has been injected into their veins, they were all persuaded to submit to the operation by being told that it would do them good, and, naturally, are likely to imagine such a result. All but one of the patients are aged men. The exception is a young man who is very deaf. He has had but one injection, and is as deaf as ever. An old man suffering from asthma, who has had three injections, says that he breathes much more easily, and considers himself, if not cured, at any rate on the high road to recovery. The other five patients, who have lung troubles of some sort, take an almost equally sanguine view of their cases since their inoculation with the elixir. The experimenters, however, not only do not accept the patients' description of their sensations, but endeavor by examination, with the aid of the proper appliances, to ascertain their true condition. Thus far their examinations have not corroborated the patients' accounts of themselves sufficiently to make Drs. Loomis and Byron think any great improvement has taken place, and what improvement there is the two doctors ascribe to the effects of anticipation. They will continue to consider any improvement to be due to the imagination, as in the case of faith cures, until the contrary is proved and the improvement is shown beyond doubt to be due to the elixir. Dr. Byron says that the efficacy of the elixir can only be demonstrated by experiments. Medical science cannot tell *a priori* whether it is really valuable or not. While he does not know that it will do good, he says that an injection with it cannot do harm. Care, however, must be used, or evil results may follow. Only a skilled physician accustomed to the use of antiseptics should perform the operation, which is quite painful. A perfectly healthy animal must also be chosen. Drs. Loomis and Byron have been experimenting about a fortnight. Several months may elapse before they will be prepared to publish their conclusions. Two of their seven patients are inmates of Bellevue. The others are dispensary patients.

CURIOUS EXPERIMENTS.—Take two eggs of equal size. Carefully dissolve the shell of one with dilute hydrochloric acid, and immerse it into pure water. In the course of a day or two enough water will pass through the outside membrane to cause it to nearly double its volume as may be shown by comparison with the second egg, which is used as a standard.

INTERESTING FACT.—If sodium sulphate is allowed to crystallize between plates of unglazed porcelain in the open air, and if the crystallization is reproduced two or three times by sprinkling with water, the plates fall into powder. The same phenomenon is observed with very hard stones. This crystallization may be a cause of the comminution of rocks which resist water.

USE FOR THE PHONOGRAPH.—While the deepest tone that our ears are capable of recognizing is one containing sixteen vibrations a second, the phonograph will record ten vibrations or less, and can then raise the pitch until we hear a reproduction from them. Similarly, vibrations above the highest rate audible to the ear can be recorded on the phonograph, and then reproduced by lowering the pitch until we actually hear the record of those inaudible pulsations.

NEW BOOKS.

A MANUAL OF CHEMISTRY, for the Use of Medical Students. By BRANDRETH SYMONDS, A. M., M. D. Blakiston, Son & Co., Philadelphia. Price \$2.00.

This is an exceedingly handy and useful little work, and we welcome it the more cordially because it is addressed to that class of students who, more than any other followers of science, should devote some share of their attention to modern chemistry. While we cannot, of course, credit the author with any great degree of originality, we nevertheless admire the concise, distinct and rational manner in which he has arranged his subjects, seeking to give everything that is necessary, while omitting that "ballast" or padding to which we are unfortunately so much accustomed. There are, of course, some minor inaccuracies, but where is the book of the kind in which they are not to be found? One of these—excusable only on the grounds of *lapsus calami*—is the statement that sea water contains 2.138 grains of solid residue to the gallon—the fact being that it contains from 3 to 3½ percent. Another—much more serious—occurs on page 111, where Dr. Symonds teaches that dextrose may be prepared under the influence exerted upon starch by diastatic ferments. Such a statement might have passed unnoticed twenty years ago, but to-day all chemists worthy of that name are well aware that the species of sugar produced by diastase is not glucose, but maltose, which, to use a rough colloquialism, is a "horse of a totally different color." Taken as a whole—despite the little faults, to be corrected in a subsequent edition—the perusal of the volume has given us much pleasure, and we commend it unhesitatingly to those for whom it has been compiled.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

August.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, crabs, clams, flounder, halibut, herring, lobster, mackerel, mussels, porgie, prawn, salmon, turtle, trout, sturgeon, whiting, weak-fish, rockfish.

VEGETABLES.—Beans, beets, cucumbers, cabbage, carrots, cauliflower, corn, egg-plant, lettuce, onions, parsley, parsnips, potatoes, squash, shallots, spinach, turnips, radish, rhubarb, tomatoes.

FRUITS.—Cherries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple, grapes, plums.

PRACTICAL RECIPES.

CALF'S-HEAD SOUP.—Wash clean a calf's head, stew it with a bunch of sweet herbs, an onion stuck with cloves, mace, pearl barley and Jamaica pepper, when it is very tender add to it some stewed celery. Season with pepper, and serve with the head in the middle of the tureen.

CAPER SAUCE.—One tablespoonful capers, two teaspoonfuls vinegar; mince one-third of the capers very fine and divide the others in half; put them in a quarter of a pint of melted butter or good thick gravy; stir it always the same way or it may oil. Sometimes half a Seville orange or lemon or parsley, chervil or tarragon are added.

CURRY POWDER.—Three ounces coriander seeds, two ounces tumeric, one ounce each of black pepper, mustard, ginger, half an ounce allspice, and lesser cardamoms, one quarter of an ounce of cummin seed; put ingredients in a cool oven for the night; thoroughly pound and mix together and bottle close for use.

STEWED CELERY.—Wash six or eight heads of celery and take off the outer leaves, cut the heads up in bits three or four inches long, stew them till tender in half a pint of veal broth or white gravy, then add two spoonfuls of cream and an ounce of butter rolled in flour; season with pepper, salt and nutmeg, and simmer the whole together. The leaves will do to flavor soup that is to be strained.

STEWED CUCUMBERS.—They may be stewed in the same way as celery with the addition of some sliced onions, or the cucumbers and onions may be first floured and fried in butter, then add the gravy and stew till tender; skim off the fat.

ICELAND WHITE FRUIT LOAF.—The whites of twelve eggs, two cups powdered sugar, one cup butter, one cup sweet cream, one-fourth cup brandy, one quart flour, two tablespoonfuls Horsford's baking powder, two pounds chopped almonds, two cups cut citron, two cup grated cocoanut, two teaspoonfuls lemon extract. Bake until thoroughly done, in a moderately hot oven.

TO CAN TOMATOES.—Of course, to make a success the tomatoes must be in good condition. Have ready a porcelain-lined kettle, a sharp knife, a large pan to hold the tomatoes while preparing them, the cans with their fixtures, the jars with porcelain-lined tops are perhaps the best, a large plate and coffee cup. Pare the tomatoes, and cut out the hard piece at the blossom end, without putting water upon them. Throw them into the kettle, and set it over the fire. Do not add either pepper or salt. The matter of the length of the time of boiling is of no consequence, except that they must cook until the whole mass is not only hot but in a boiling state whether it takes thirty, sixty, or more minutes. Place a can upon the plate after putting the rubber around the neck; with the cup dip out and pour into the can the boiling tomatoes, hold the cover in your left hand, and when the liquid overflows clap on the cover, and screw it down quickly. Set the can aside, and several times see if you can screw it a little tighter, for as the steam condenses it will leave a little space at the neck of the can.

TOMATO CATSUP.—Remove the blossom end and such green spots as are near it; place the tomatoes in a porcelain-lined kettle, boil until very soft, strain through a colander if the seeds are desired, through a sieve if not. Measure the liquid; to every quart add one quart of vinegar, half a teaspoonful of cloves, cinnamon, black pepper, a pinch of red pepper, salt to the taste, half a tablespoonful of dry mustard, and the same of celery seed. The best way to mix the spices is to moisten them with a little of the tomato juice. Bottle when cold.

BEER AT HOME.

A WESTERN EXPERT DECLARES IN FAVOR OF THE AMERICAN PRODUCT.

Murat Halstead who has just returned from a European trip, writes as follows in the *Cincinnati Commercial Gazette*:

Beer is forbidden in the usual "cures" at the German Springs, but invalids are in the habit of sampling a little of it as they come and go, and are likely to have a general idea of the quality thereof. To get along without it is really troublesome sometimes, for the water is largely bad, even dangerous, and one cannot be quite sure even of seltzer and other bottled waters. Chemical analysis has shown more than once that polluted water was used in seltzers and sodas. It may be employed in manufacturing beer, also, but pub-

lic opinion is powerful against water and in favor of beer, and hard to resist—especially where milk is scarce. From the experience with those whom I was familiar I feel able to say that the average beer in Berlin is no better than that of Cincinnati and Milwaukee. It is apt to be too light or too heavy, but the Bavarian beer has a good reputation of its own, which I believe is justified. The price of beer is nearly equal in Germany to what it is in America, and they know even in Berlin and at the railway stations how to fill the glasses with froth. The price of beer in Germany is from 15 to 30 pfennigs per glass. The German champagne is, by the Germans themselves admitted to be inferior to the French. It is slightly acidulous, and the doctors do not seem to be of the judgment that there is danger that invalids will drink too much of it, for only in special cases is it forbidden. One of the surprises is since we are speaking of the fluids that show their color in the cup and move themselves aright and are otherwise seductive, that the price of champagne is about the same in France that it is in the United States. A friend paid 18 francs for a bottle of champagne on the Eiffel, and assured me there was nothing extraordinary about it except that it happened to be rather dry and he had to have it because it was good to go with roast chicken. It is the fashion in France to drink sweet champagne, and in England to take it dry. The consummate thing at a French dinner is for the servants pouring the champagne to carry a bottle with a napkin about its neck in each hand, and to ask, before filling a glass, "Sweet or dry?" The legend goes that the dry article assimilates with chicken in France and terrapin in America.

PINS.

THEIR ANCIENT HISTORY AND MODERN MANUFACTURE.

Not the modern pin, but its less delicate predecessor we hear of in old world tales. The Egyptians themselves used something of the kind, and among the Romans, so the records say, there were pins of bronze, with ornamented head, from one to eight inches long; and, also they were made of ivory, bone or wood. In England, up to the middle of the sixteenth century, people made use of skewers, of wood for this purpose, though there were pins of gold, silver and brass. But it was not until about 1626 that the pin manufacture in England became a settled thing. In 1483, that such an industry might best be fostered, the importation of pins was prohibited by public statute. But the law became very much of a dead letter, and as late as 1540 there is evidence that at least one of the royal family was in the habit of receiving her pins from France. For at that time a very large proportion of those of English manufacture were made of iron wire, blanching or whitening, and passed off as the good quality brass pin. Three years later this act was declared.

"No person shall put to sale any pinnes but only such as shall be double-headed, and have the heads soldered fast to the shank of the pinnes, well smoothed, the shank well shapen, the points well and round filed, canted and sharpened."

To-day England is the greatest pin-making country of the world. Its product is something like fifty million pins a year, and Birmingham is the center, with an output of 37,000,000. There are made the pins of the old trade marks and the great reputations, and it matters not that America is able to produce exactly as good; very many papers of these are always salable here. The old form of pin, fortunately obsolete, spoken of nowadays as the "pin of the old German head," was what was made in the early days of the industry in the United States. The era of the solid headed pin of now dates from somewhere in the eighteen thirties. The old pin has been wisely described as "a shank with a separate head of fine wire twisted around it." This head variously known as a "spun head" or a

"wound head," would sometimes fit on tightly and then again loosely. So apt was it to come entirely away from the shank that among the old women of early in the century this popular warning to children arose: "Don't scratch your ear with the head of a pin, if you do the head'll come off and make you deaf." In this country the first attempt at pin manufacturing was made soon after the war of 1812. Then, with war-time prices a paper of pins sold for \$1, and they were of inferior quality to pins bringing now but six cents. The first place of manufacturing was in the old State's prison in that part of New York known as Greenwich Village. This enterprise was soon abandoned, but the plant was used elsewhere. In 1824 the first solid-headed pin machinery was invented, but it was several years later before it was actually put into operation. Beyond mechanical improvements in execution and finish the difference between the old and the present pin is thus in the heads. The "spun" head was of a finer wire than the shank. It was wound around a lathe into a spiral. Three turns of the spiral cut off furnished the head for one pin. The heads when annealed, were shaped by a hammer. Each taken up upon a pin-wire—this introduced point downwards, in a hole, the centre of a die—was secured by a hammer's blow. Nowadays the pin machine, the bit of wire having been sharpened and filed, by a carrier takes it to the first heading die. Here a steel punch forces one end of it into a recess, where the head is partially formed, and another heading die a little further on completes the work. Thus the making of the head of the solid-headed pin. Brass is now, as ever, the most approved material. Iron and steel have been tried, but iron and steel will rust. After the filing and the heading the brass pins go into a bath or solution of tin, from which they come of silvery appearance. Many of the mourning pins one sees, however, are of iron wire japanned. And thereby is all their temper, or "spring," as a pin man puts it, gone. And no wonder, for the japanning process in its latter stages is that of baking in an oven. Quite recently, however, a new method has been devised. A brass pin is coated over with a black nickel wash. No quality of temper is destroyed, and the necessary luster is obtained. But the pin trade isn't growing. Appreciably, it has no greater volume than in 1880. The calculation was then made that every man, woman and child in America used 144 pins a year. Why no more are used now is explained by the fact of there being so very many

safety pins to take their place. These latter, in fact form a separate business, and since their invention eighteen years ago have popularized rapidly. The making up of the paper of pins—entirely by machinery it is—is in two ways, The American "stuck" is fourteen rows of twenty pins each, the English "stuck" twelve rows of thirty each.

THE IDEAL FOUNTAIN PEN.

The steadily accelerating pace of the period we live in makes its impress upon even the commonplaces of daily occupation. Our fathers, for example, wrote with quill pens, carefully sharpened to make an ink mark so heavy that they had to use building sand to absorb it, as we use blotting paper. Now, besides the tons of iron annually consumed in the manufacture of steel pens, a large proportion of penmen use gold pens on account of their greater durability and smoothness. But even those qualities do not now suffice unless there is a perpetual ink supply attached, and accordingly fountain pens are everywhere used by persons whose duties involve any great amount of writing. There are several kinds in the market, but, whatever the merits of the others, it may be said in behalf of the Waterman Ideal Fountain Pen that there is nothing to be said to its disparagement. It is always ready, and with trifling care is always in order, and writes with easy freedom.

WEIGHING MENTAL PROCESSES.—According to recent statements an Italian inventor has constructed a machine which "registers in pounds and ounces the amount of brain-power expended in mental effort and tells you just how much a dream weighs, or how many pounds of brain-cells you consumed in reading a book, or writing a poem, or listening to a sermon."

TO SPLIT PAPER.—There are two ways of splitting a piece of paper. One is to lay the sheet of paper on a piece of glass, soak it thoroughly with water and then press it smoothly all over the glass. With a little care the upper half of the sheet can be peeled off, leaving the under half on the glass. Let this dry and it will come off the glass easily; of course the glass must be perfectly clean. The second way is a better one, but it requires some good practice. Paste a piece of cloth or strong paper on each side of the sheet to be split. When it has thoroughly dried pull the two pieces of cloth apart suddenly and violently. The paste can then be softened with water, and the two halves of the sheet easily taken off the cloths."—*Newspaper Union*.



PUBLISHED EVERY SATURDAY.
In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer and Decorator.

Subscription, \$6.00 a Year in Advance.
SAMPLE FREE.

THE BEST ADVERTISING MEDIUM OF ITS CLASS
PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.
Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY, 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
23 Warren St., New York.

A GREAT BORE.—The Pabst Brewing Company of Milwaukee, is boring what is intended to be the largest artesian well in Milwaukee. A beginning has been made by sinking a cistern twenty feet in diameter and twenty feet deep, lined with brick. Below this is a well 200 feet deep and eight feet in diameter, lined with boiler-iron three-eighths of an inch thick. From the bottom of this a shaft is to be sunk to as great a depth as may be necessary to get an ample supply of water for the use of the brewery.

CHROME IRON.—A Norwegian engineer, Herr O. Olsen, Christiania, has obtained a ten years' patent for a new process for the manufacture of chrome iron. In his process, a well-mixed proportion of finely pulverized chrome ore, powdered charcoal and tar are heated to red heat in a closed vessel, then allowed to cool, and finally remelted in a crucible, together with a certain proportion of pulverized iron ore, powdered charcoal, borax, ground glass and cyanide of potassium. The proportions of the mixture are naturally kept a secret.



Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Parnathy & Co.
Producers of the ECLIPSE CHAMPAGNE.
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

PRINTERS' INK.

A JOURNAL FOR ADVERTISERS.

PRINTERS' INK is just what it purports to be, "a journal for advertisers." It is issued on the first and fifteenth days of each month, and is the representative journal—the trade journal, so to speak—of American advertisers. It tells the intending and inexperienced advertiser in plain, comprehensive articles how, when, and where to advertise; how to write an advertisement; how to display one; what newspapers or other media to use; how much to expend—in fact, discourses on every point that admits of profitable discussion. If you advertise at all, PRINTERS' INK can help you. Perhaps you expend but Ten Dollars a year in advertising; if so, PRINTERS' INK may show you how to obtain double the service you are now getting for one-half the money. A year's subscription costs but One Dollar: a sample copy costs but Five Cents. Advertising is an art practised by many but understood by few. The conductors of PRINTERS' INK understand it thoroughly. Surely their advice, based on an experience of more than twenty-five years, will help you. Address:—



GEO. P. ROWELL & CO'S
Newspaper Advertising Bureau
20 Spruce St., New York.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

A BOOK FOR EVERY LOVER OF FICTION!
Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, *profusely and handsomely illustrated*, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,
19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM No. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 70cts. per lb. Special—We will send by mail a **Trial Order** of ½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

A HOUSE-FLY EPIDEMIC.—A common appearance upon window panes in autumn is that of dead flies, each surrounded by a cloudy spot. These insects are the victims of a bacillus or microscopic fungus, whose scientific name is *Empusa musca*, which is nearly related to the mould which attacks bread, and also to the silk-worm fungus so much dreaded by silk culturists. In the autumn the spores of *Empusa musca*, floating in the air, come in contact with the soft bodies of the flies, into which they sink their roots, or, rather, develop that branching, net-like growth known as mycelium. As the growth extends through the body the insect loses the power of flight and settles down to die on the window pane. The fungus continues its growth in the dead body and scatters its spores in all directions forming the cloud-like spot which surrounds the insect. Other flies visit the pane and the spores find lodging between the abdominal rings and in other unprotected parts of their bodies, and thus the disease spreads, sometimes to an enormous extent.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

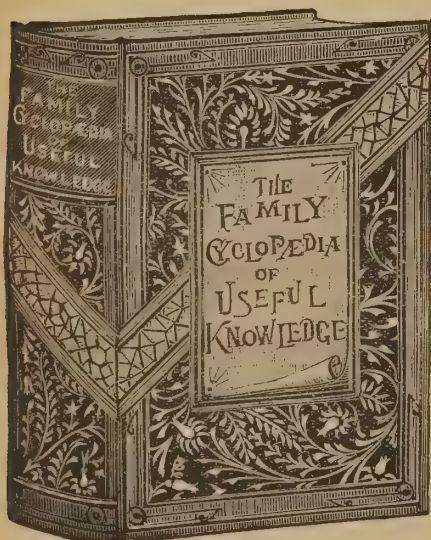
"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



Hot Weather

is the very best time to test the wonderful labor and time saving and economical qualities of

Pyle's Pearline.

Because then the wash is largest, and a saving of time and toil is best appreciated. Think of doing a large wash with little or no rubbing. Consider how much longer your delicate summer clothing will last if not rubbed to pieces on a washboard. A saving is a gain. You'll be surprised and pleased with the cleanliness, satisfaction and comfort which comes of the use of PEARLINE. Simple—any servant can use it. Perfectly harmless—you can soak your finest linen and laces in Pearl-line and water for a month, with safety. Delightful in the bath—makes the water soft. Perhaps you have been using some of the imitations and have sore hands and find your clothing going to pieces. Moral—use the original and best. ¹⁵⁴ Pearline is manufactured only by JAMES PYLE, New York.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.		Price including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 25
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.



BLAIR'S PILLS

Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York



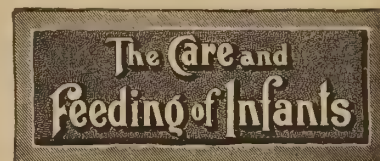
TRADE MARK

FOR INFANTS & INVALIDS

FOOD

The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

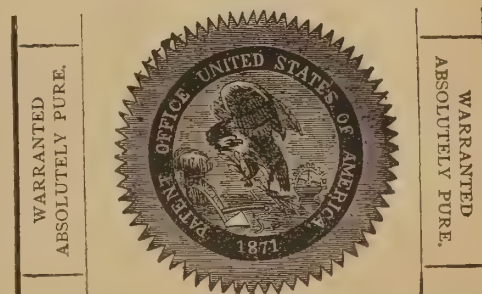
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

Subscriptions \$1 per year. Now is the time to subscribe.

OUR MISSION.**WHAT THE AMERICAN ANALYST IS DOING.****FIGHTING ADULTERATION.**

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are wide-spreading.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

Crayon Portraits

Artistically reproduced from old photographs, tintypes or ambrotypes. Moderate prices. Also, Free-hand Drawing.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

A BOOK THAT EVERY LADY NEEDS.

THE LADIES' GUIDE TO FANCY WORK.



printed, and, as above stated, contains nearly 300 illustrations. It will be sent by mail, post-paid, upon receipt of price, only **Twenty-five Cents**.

How to make the Home Beautiful at small cost is a subject now uppermost in the mind of every lady of good taste. This book is a complete practical instructor in every description of Ladies' Fancy Work, and the only first-class work of the kind ever published at a low price. It contains nearly **300 Illustrations**, and the instructions given are so plain and simple that by their aid even a child may make the many beautiful things which the book describes. It gives plain and practical instructions in Drawing, Oil Painting, and making Wax Flowers; likewise all kinds of Fancy Needle Work, Artistic Embroidery, Lace Work, Knitting, Tatting, Crochet and Net Work. It contains designs for Monograms, Initials, Cross Stitch Patterns, Knit Edgings, Embroidered Borders and Corners, Macramé Work, Applique Embroidery, Berlin Work, Java Canvas Work, Tricot and Burlaps, Antique Lace, Beaded Lace, Darned Net Work, Ties, Lambrequins, Ottoman, Counterpanes, Rugs, Carriage Robes, Brackets, Wall Pockets, Waste Paper Baskets, Work Boxes, Work Baskets, Work Bags, Pen Wipers, Hanging Baskets, Catch-alls, Pin Cushions, Footstools, Handkerchief Boxes, Glove Boxes, Card Baskets, Sofa Pillows, Table Covers, Table Scarfs, Screens, Scrap Bags, Hand Bags, Table Mats, Toilet Mats, Lamp Mats, Lamp Shades, Pillow Shams, Pillow Sham Holders, Curtains, Toilet Stands, Picture Frames, Slipper Cases, Letter Cases, Toilet Sets, Clothes Brush Holders, Cigar Boxes, Hassocks, Sachets, Fancy Purses, Slippers, Dressing Gowns, Music Portfolios, Knife Cases, Fans, Flower Baskets, Plant Stands, Flower Pot Covers, Shawls, Dress Trimmings, Window Shades, Feather Work, Spatter Work, Leaf Photographs, and many other things. It is a book that should be in every American household. With it as a guide you may make hundreds of beautiful things for the adornment of your home and for presents to your friends at the most trifling expense, and no employment for ladies is more fascinating and useful. The book will repay its small cost many times over in a very short time. Every lady will be delighted with it. It is a large book of 64 large 3-column pages, with handsome cover, is finely

INVALUABLE TO EVERY HOUSEWIFE!

THE MODERN COOK-BOOK AND MEDICAL GUIDE.

This is practically two books in one—a perfect cook-book and a perfect medical book—and there is so much in it and so much care and pains have been taken in its compilation, that we feel perfectly safe in asserting that the Cooking department is fully the equal, in quantity and quality, of any low-priced cook-book published, and the same as to the medical department herein as compared with any low-priced medical work on the market. It is a complete encyclopædia of domestic information, and we fully believe that no lady, after having it in the house a short time, would willingly do without it for ten times its cost. The cooking recipes number 627, and include Breakfast Dishes, Soups, Meats and Poultry, Fish, Vegetables, Salads and Relishes, Bread and Rolls, Jellies and Preserves, Fuddings and Pies, Fancy Dishes, Cakes, Confectionery, Ice Creams and Summer Drinks. The compilation of this department was superintended by a practical housekeeper, every recipe will be found reliable, and it has been pronounced one of the best, most complete, and practical cook-books published. The Medical Department will be found fully the equal of any doctor book published at one dollar or less. It tells you how to cure, by simple means, available in every home, Malaria, Pneumonia, Poisons (antidotes for), Nervousness, Measles, Rheumatism, Toothache, Wounds, Sprains and Bruises, Weak and Inflamed Eyes, Dust in the Eye, Sore Throat, Scald Head, Whooping Cough, Neuralgia, Earache, Worms, Warts, Burns and Scalds, Headache, Offensive Breath, Bleeding (to stop), Cancer, Consumption, Felons, Dysepsia, Dysentery, Diarrhoea, Croup, Corns, Liquor Appetite, Coughs and Colds, Cold in the Head, Catarrh, Scarlet Fever, Nose Bleed, Baldness, Smallpox, Sleeplessness, Ringworm, Chills, Costiveness, Cholera Morbus, Bright's Disease, Convulsions, Mumps, Superfluous Hair (to remove), Hysterics, Colic, Sciatica, Biliousness, Nettle Rash, Typhoid Fever, Ingrowing Toe Nails, Abscess, Stammering, Hemorrhage, Asthma, Hydrophobia, Scrofula, Bronchitis, Lockjaw, Erysipelas, Hoarseness, Chills and Fever, Dropsy, Bunions, Fits, Dandruff, Scurf, Quinsey, Heartburn, Styes, Liver Complaint, Cramps, Corpulence, Sunstroke, Knock-knees, Indigestion, Jaundice, Gout, Prickly Heat, Ulcers, Salt Rheum, Fainting, Boils, Tobacco Habit, Gray Hair (to prevent), Cholera Infantum, Deafness, Stiff Neck, Piles, Choking, Freckles, Pimples, Sunburn, Chapped Hands, and many other ailments. It will save you many dollars annually in doctors' bills and patent medicines. Who can doubt that twenty-five cents invested in such a useful and valuable book as this would be the best and most profitable investment that could possibly be made of so small a sum? **THE MODERN COOK BOOK AND MEDICAL GUIDE** is a large book of 128 pages, neatly bound in colored covers. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

AVOID LITIGATION! BE YOUR OWN LAWYER!

EVERYBODY'S LAW BOOK.

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights, and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic Law, by a prominent member of the New York bar, containing concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Adjudication, Agency, Agreements, Arbitration and Award, Assault and Battery, Assignments, Attachments, Banks, Bills of Exchange, Checks and Promissory Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardian and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warranty, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executors' and Administrators' Accounts, Interest Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value, and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. **EVERYBODY'S LAW BOOK** is a large volume of 128 pages, 12mo, with handsome cover. It will be sent by mail, post-paid, upon receipt of only **Twenty-five Cents**. Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

For School Exhibitions and Public and Private Entertainments.

The Complete Book of Recitations and Dialogues.

This book contains, so far as we know, the best and most complete collection of recitations ever published in a single volume. All the popular recitation books of the day have been consulted and the cream selected, and the result is a mammoth collection of recitations which cannot fail to answer every requirement. There are hundreds of them, and they embrace every kind and character of recitations, adapted to every need, humorous, dramatic and pathetic—from short juvenile pieces for the little boys and girls on Friday afternoons to pretentious dramatic works for the professional elocutionist. We have space to enumerate the titles of only a very few of them, as follows: "Ostler Joe," "Asleep at the Switch," "The Last Hymn," "The Deadman's Journey," "The Engineer's Story," "Cripple Ben," "Two Loves and a Life," "The Mother-in-Law," "The Farmer's Story," "Taking Toll," "The Engineer," "The Tramp," "Tim's Daisies," "John Derrill's Dream," "Too Late," "The Bootkeeper's Dream," "Savin' Mother," "Curfew must not Ring to Night," "The Palmetto and the Pine," "The Pollah Boy," "Drafted," "The Blacksmith's Story," "The Burning Prairie," "Guilty or Not Guilty," "The Foreclosure of the Mortgage," "The Clown's Baby," "Bill Mason's Ride," "How we tried to Whip the Teacher," "Driving Home the Cows," "Somebody's Mother," "When the Tide Goes Out," "The Old Farmer's Elegy," "Widder Spriggins' Daughter," "The Light-keeper's Daughter," "How the Parson Broke the Sabbath," "Which Shall it Be?" "Somebody's Darling," etc., etc. In addition to the Mammoth collection of Recitations contained in this book, it also contains a number of fine Dialogues, mostly humorous, among which are: "Marrying a Poetess," "What's in a Name?" "The Train to Mauro," "The Graduates," "The Female Astrologer," "Proposing by Proxy," "Story-Telling," "The Morning Call," etc. Those who have sent for books of this character and been disappointed in them, owing to the meagerness and inferiority of their contents, will be happily surprised in this book, for not only is it the largest collection of Recitations and Dialogues ever sold at a low price, but great care has been taken in the selection of its contents, the aim being to include only the best. It is a splendid book, guaranteed to give satisfaction. **THE COMPLETE BOOK OF RECITATIONS AND DIALOGUES** is a large book of 64 large 3-column pages, with handsome colored cover. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the **AMERICAN ANALYST** for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the **AMERICAN ANALYST**. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppler's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

E. H. GRITTENDEN.

Professor of Physiological Chemistry in Yale College.
At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Fermented.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract" or "Extract of Malt."

Send for Pamphlet giving comparative analysis, by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc.

Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist.

81st, 210 West 42d St., NEW YORK CITY, N.Y.

P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United

States who desires to obtain Adver-

tising Matter, Show Cards, Signs,

etc., which will assist and instruct

him in the sale of Harriet Hubbard

Ayer's Recamier Toilet Preparations

and Vita Nuova, should address THE

RECAMIER MFG. CO., 52 and 54 Park

Place, New York City.

GOOD AGENTS wanted to so-

licit subscriptions and advertise-

ments for the **AMERICAN AN-**

ALYST. Apply 19 Park Place,

N. Y.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK

WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

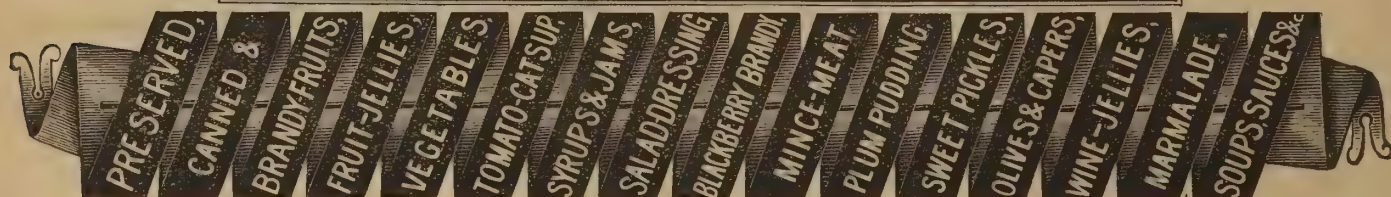
563 & 565

GREENWICH ST. NEW YORK

CHOICE OF DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

Pure
LAGER BEER,
"IMPERIAL" and
"CULMBACHER"
Brewed & Bottled
SPECIALLY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES
BY
Beadleston & Woerz
291 W. 10th St New York.
Orders by Postal Card
promptly attended to.

LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins
Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

A CURE

FOR

Sick and Nervous
HEADACHES.



ASK FOR

BROMO-SODA
AND
TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

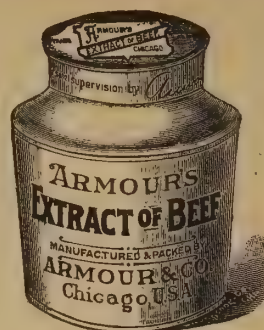
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

**ARMOUR'S
EXTRACT OF BEEF.**

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

LIQUID

BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, (inchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D. F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 35.

NEW YORK, THURSDAY, AUGUST 29, 1889.

WHOLE No. 131.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Domestic Dietetics.....	412
Dressed Beef Wins.....	410
Dried Grapes.....	410
Editorials.....	409
A Personal Explanation; The Pure Food Movement; How to Eat a Shaddock; Dr. Brown-Sequard; Mexi- can Trade in American Beef.	
Kangaroo in Commerce.....	412
Old Madeira.....	411

A PERSONAL EXPLANATION.

Our esteemed contemporary, the *Butcher's Advocate*, dropping for the moment the general discussion of the beef inspection conspiracy, rises to a point of order. Referring to the fact that the AMERICAN ANALYST recently alluded to the ridiculous attitude our esteemed contemporary, above mentioned, occupied, when it forsook the block and cleaver to "dabble" in the law relative to the illegal effort it was advocating, it says:

We merely desire to remark, as to the "dabbling," that we have had many years of experience in the highest order of legal practice, and have been associated with, and publicly commended by, some of the ablest lawyers in the United States Senate and the National House of Representatives.

The point is not well taken. At least, not wholly. Our esteemed contemporary fails to explain in what manner its experience with "the highest order of legal practice" was gained—whether as plaintiff or defendant. In fact, its ambiguous assertion may relate to a post-conviction effort for securing a new trial—or an ultimate appeal to executive clemency. We should like

to have our minds set clear on that point—and we pledge ourselves to implicit secrecy if the situation turns out to be even half as bad as we suspect. We don't approve of conspiracies, but we would rather see the conspirators succeed in raising the price of beef ten cents a pound, than even intimate a hint to the prejudice of our esteemed contemporary, whose "experience" has brought it into such lofty, prolonged, and perhaps, uncomfortable relationship. The latter portion of the above quoted personal explanation, is, however, luminously correct. The bamboozling of a handful of rustic legislators in two or three States, into passing the local inspection absurdity, has already produced such fruit, in the shape of litigation in order to disencumber those States of the unconstitutional burden, that the lawyers have reaped a rich harvest—and if they are true to the traditions of their profession, they are not nearly through yet. It is not every year that a new issue is concocted, like this local inspection scheme, wholly for the emolument of lawyers, and even laymen as we are, we can readily conceive the depth of obligation which that fraternity must feel toward the *Advocate* and its co-conspirators for thus playing into their hands. That the Bar of the Nation, through its representatives in the two Houses of Congress, had embodied their sense of gratitude in a public testimonial to our esteemed contemporary, we were not previously aware—owing, doubtless, to the envy of the daily press, or to the innate modesty of the recipient of that distinction, which prevented his alluding to the subject until forced, as he fondly believed, to disclaim the epithet of "dabbler."

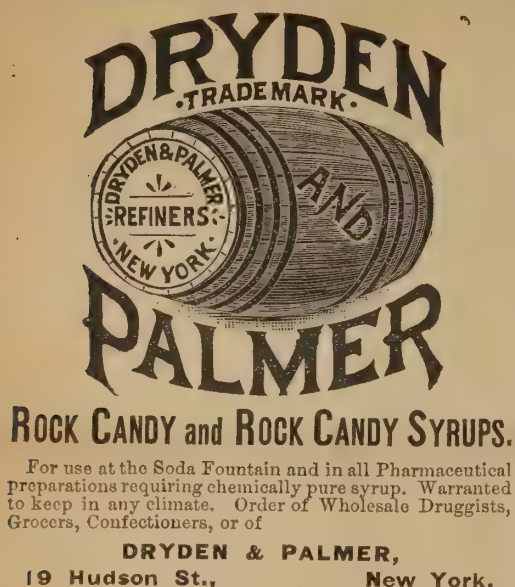
THE PURE FOOD MOVEMENT.

Despite the efforts of the Philadelphia "crusading" cranks, the pure food movement is not wholly crushed in this country. The National Association is still conducting its campaign, with quiet earnestness that augurs favorably for the accomplishment of good results. It has branch organizations in several States, and is steadily extending its operations, while the public are being systematically enlightened through meetings and lectures conducted by specialists in the several side issues involved in the subject. It is manifestly a great task to develop the faculty of discrimination in the matter of food, but with adequate and well-enforced legislation like that prohibiting the sale of fraudulently adulterated food in other nations, its accomplishment is not unimaginable. It is admitted by the promoters of the movement that much has been gained for the general good through the activity of the Boards of Health, limited as their official powers are to a single line of inquiry. As, however, it is not their business to enforce trade morality, anything may be sold unless the article is essentially injurious to health. The main fault in the premises lies, of course, with the consumer, who seems ever ready to seek the cheapest commodity, though common sense shows plainly enough that beyond a cer-

tain point cheapness must necessarily imply lack of purity. Worth and cost must always go hand in hand together. But the responsibility of the public would be greatly diminished if the retail grocery trade did not so earnestly cater to the public desire for cheap food materials, thereby further fostering the demand for their manufacture. How far that trade will honestly assist in the practical carrying out of pure food principles is a very dubious question. They are quick enough always in lending their voices to pure food advocacy, but in the eagerness of competition their pretended principles evaporate in talk. If a law could be enacted and enforced compelling manufacturers to label every package so as to display its composition or character, the burden would fall exclusively upon the consumer, who alone would be to blame for the selection of inferior articles. The AMERICAN ANALYST has for five years been educating the consumer as to the character of the food he eats, but the interested antagonism of the retailer has steadily and unscrupulously interposed itself to counteract our teachings and advice, and thus far that interest has succeeded in quashing every organized effort for food reform through statutory measures. The National Association, we understand, has formulated a law which it will endeavor to have introduced in Congress next month. With a Bureau on Adulteration in one of the Government departments, as proposed, each mixture will be labelled. No substance is to be coated or colored or polished or powdered to appear better or of greater value than it really is. A line is not to be drawn at the poisonous ingredient, but everything is to be brought down to the level of purity.

HOW TO EAT A SHADDOCK.

An article that has recently been going the rounds of the newspapers, entitled "The Rise of the Shaddock," has inspired Miss Gilder, of this city, to instruct the public, through the medium of the *Boston Transcript*, as to the proper method of eating that fruit. The writer says: "The shaddock, as you may not know, is that abnormally large and very light yellow orange seen in the windows of fancy fruiterers or on the stands of Italian vendors. When cut open the likeness to the orange is still there, but when tasted all likeness to that sweetest of fruits is gone. The shaddock, or grape fruit, as it is stupidly called, is rather bitter than otherwise, but it is a pleasant bitter, and if you once know how to eat it you will be as devoted to it as I am. Select a thin-skinned shaddock, and if you are going to eat it in the morning put it on ice at night. When you take it out cut it in halves, and with a sharp knife cut out the core. Make the cut so that it is larger at the top than at the bottom. Then run the knife around the edge of the shaddock to loosen the pulp from the skin. Put a teaspoonful of powdered sugar into the hole where the core was, and pour a teaspoonful of Jamaica rum or arrac into the same cavity; take the teaspoon and eat."



DRYDEN & PALMER
TRADE MARK
REFINERS
NEW YORK
Rock Candy and Rock Candy Syrups.
For use at the Soda Fountain and in all Pharmaceutical Preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of
DRYDEN & PALMER,
19 Hudson St., New York.

DR. BROWN-SEQUARD.

The name of Dr. Brown-Sequard having lately been brought before the public eye more frequently than heretofore, considerable curiosity has been expressed as to his nativity. To satisfy this very natural desire, we will state that the doctor was born in 1818 in the island of Mauritius, where his father, Edward Brown, a native of Philadelphia, and previously master of a merchant vessel, was engaged in business. His mother was a French woman named Sequard, who lived on the island. All of young Brown's preliminary studies were made in Mauritius, and it was not until he had reached the age of twenty that he went to Paris to complete his medical course and take his degree. The language of his family and his youth is French, and he speaks it better than English, although in writing he has an equal command of either tongue. He has been married three times—first, to a Miss Fletcher, of Boston; secondly, to a Miss Carlisle, of Cincinnati; and his third wife, who is still living, is an English woman, the widow of an Irish engraver named Doherty.

MEXICAN TRADE IN AMERICAN BEEF.

A dispatch from the City of Mexico, dated August 20th, says: "A large business is now being done in the way of importing American cattle and hogs to this city, and the trade is rapidly increasing. Fully 500 head of Texas cattle are brought here every month for city consumption alone, and for sometime past E. C. Swift, the prominent packer of Chicago and Kansas City, and Dr. Carothers, of San Antonio, Tex., have been bringing here several thousand American hogs monthly. They are now erecting near the yards of the Mexican Central Railroad in this city, refrigerating works of large dimensions, in which the curing, pickling and smoking of hams and bacon will be done. The enterprise is the first of its kind ever attempted in the Republic, and for its success several hundred thousand dollars will be invested. Hogs for its supply will be dressed in Kansas City, at Swift's works, and be sent here in refrigerator cars. The shipment of dressed steers will not as yet be attempted, but it will soon follow.

ROLLED METAL.—A Chicago firm has patented an invention which "comptent judges say will revolutionize the tin and steel industry of the world," a process by which molten metal may be rolled into any desired shape, "thus saving all intermediate processes." It was invented originally to roll molten solder into thin plates, but the process is pronounced by experts to be equally applicable to iron and steel in its various forms of plates, structural iron and rails.

DRIED GRAPES.

A GROWING CALIFORNIA INDUSTRY WITH A SIGNIFICANT FUTURE.

At a meeting of the Grape Growers and Wine Makers' Association of California, held at Platts' Hall, San Francisco, in June, 1889, a committee was appointed to call the attention of the grape growers of California to the subject of drying wine grapes, and also to collect and disseminate such information regarding the same as could be obtained; at the same time to ascertain, as far as possible, the probable and possible markets for such products and the estimated prices to be obtained. We condense from the committee's report the following points of interest to the readers of the *AMERICAN ANALYST*:

The drying of wine grapes on a large scale was begun during the vintage season of 1887, in which season about eight carloads in all were made and sold, the bulk of which came from the vicinity of Fresno; that year, the committee are informed, the growers netted about three and a half cents per pound. During the season of 1888 about 112 carloads were dried, packed and sold, netting the growers from two and a half to three and a half cents per pound, depending on the quality of the fruit. The great bulk of that year's product has entered into consumption, but there yet remains unsold to consumers, we are informed, about ten carloads, which, it is expected, will be sold during the next three months. It has been observed by those handling this product that the largest sales of dried wine grapes in 1888 and '89 took place at those points to which the first lots were shipped in 1887, which would show that as the product becomes better known it finds a readier market. Dried wine grapes are prepared in a similar manner to raisins; that is, they are dried in the sun, but do not require the same care in handling that are given to raisins. Wooden trays 2 x 3 are sometimes used, but it is by no means necessary to go to the expense of procuring trays, as it has been found that a good quality of coarse brown paper will answer every purpose, and this, with care, may be made to last two or three seasons. The drying was last season principally done on the bare ground, but there is much loss by shelling, as those dried are required to be turned; a pitchfork is used for that purpose. Brown building paper can be procured of city paper dealers in large rolls at four and a half cents per pound; according to the thickness it will cost from one and three-quarters to three and a half cents per square yard. A thin, tough, waterproof paper is also made in rolls at about six cents a square yard. Wine grapes dry in from ten days to three weeks, according to variety and weather, and, with the exception of Malvoisie, Rose of Peru and Black Hamburg, from three and a half to four and a half tons of the green fruit are required to make one of the dried; these three varieties, however, being large, meaty and of a firm pulp, do not require more than from three to three and a half tons of the green fruit to produce one ton of dried, and are, therefore, the most profitable for drying; they also command better values in the market. The grapes are sufficiently dried when, on being rolled between the thumb and finger, no moisture exudes, and also when the stems are found to be dry and brittle, so that they can be separated readily from the berries. After the grapes have reached the proper state of dryness, they are taken in boxes or sacks to the packing house, where they are stemmed and cleaned, after which they are packed in white cotton sacks, holding from fifty to seventy-five pounds each, and when marked are ready for shipment. The stemming and cleaning of the dried grapes is done by special machines designed for that purpose, which leaves the fruit in a bright, clean condition attractive to purchasers. These machines are at present built only by James Porteous, Fresno, and are operated either by hand or power. The cost of a stemmer and cleaner complete is \$80, f. o. b. cars at Fresno. Where several producers can do so, it would be advisable to club together

and get the machine in this way. Much extra expense could be avoided and one set of machinery would serve several vineyards, possibly an entire district where time was not a great object; or some one person in a district could purchase an outfit and do the work by contract, going from place to place. The capacity of the stemmer and cleaner is from five to eight tons per day, when the grapes are in proper condition; and the cost or charge for stemming, cleaning, sacking and sewing up the sacks is from four to five dollars per ton when the producer furnishes the sacks. Good cotton sacks, holding about seventy-five pounds, cost from eight to ten cents each, including the necessary twine. Last year dried grapes were generally sold for cash, f. o. b., but it is probable that other markets could be secured by selling on consignment. As to the advisability of such a course, each producer must himself be the judge. It is, however, quite certain that until consumers have an opportunity to try this product, the sales will necessarily be more or less limited, unless vigorously pushed by merchants and others interested in extending the markets for California products in the eastern cities not yet tried. The varieties most suitable and profitable for drying, and especially for consumption in the eastern markets, are the Malvoisie, Rose of Peru, Black Hamburg, Mission, Zinfandel, Charbono, Grenache, and in some localities the Carignan, of the dark varieties, and the Feher Zagos and Golden Chasselas of the white grapes; there are many other white grapes that are excellent when dried, but are too valuable for wine-making purposes, or are too small or deficient in sugar for use as dried grapes. The same is true of the dark grapes, some of which ripen so late that it would be impossible to dry them in the sun, and the use of artificial heat is, at present prices, too expensive. Therefore, the varieties mentioned, which generally mature early, are found to be the most suitable for this purpose. This product is sold by dealers in the eastern cities for cooking purposes, and as a substitute for dried fruits such as peaches, apples, apricots, etc., in comparison with which it is usually much cheaper; while for stewing and for puddings and pies it answers the same purpose. The demand for this product will probably be gauged by the eastern fruit crop; that is, the quantity that can be disposed of will depend upon the quantity of eastern fruit in the market, and the prices will be largely dependent upon that of dried fruit.

DRESSED BEEF WINS.

THE MINNESOTA INSPECTION LAW DECLARED UNCONSTITUTIONAL.

The Duluth correspondent of the *Chicago Tribune* under date of August 13, gives the following details of the beef inspection decision referred to in the editorial columns of the *AMERICAN ANALYST* last week:

A month or so ago a Wisconsin farmer sold in Stillwater, meat he had killed in Wisconsin. He was arrested and the court there held the law unconstitutional. But it did not give the matter so thorough a test as the big packing companies wanted, so it was decided to go ahead with the case in this city. The Armour Packing Company, therefore, shipped meat here from Kansas City and yesterday the local manager made the first sale in the State by an outside packing company since the law was passed. The manager here, A. F. Christian, was promptly arrested and fined \$50 and committed to jail in default thereof. A writ of habeas corpus was issued by Judge Ensign, made returnable to-day, and sentence was suspended pending the hearing of the writ. To-day both Judges Stearns and Ensign of the district court, in view of the importance of the case and the questions involved, sat on it, and they united in the decision that the law was unconstitutional. The State was represented by County Attorney Sherwood and City Attorney Smith and the prisoner and packing companies by Cash & Williams of this city, with H. C. Vedder of Chicago as counsel. The consti-

tutionality of the law and the legality of the arrest and imprisonment under it were argued in full, every point being gone into at length. The courts sustained the arguments of the defence in every way. The decision was as follows:

THE COURT'S DECISION.

The question to be determined is as to the validity of Chap. 238, general laws of Minnesota, 1889, entitled: "An Act for the Protection of the Public Health by Providing for Inspection before Slaughter of Cattle, Sheep, and Swine." The act provides for the methods of inspection, appointment of inspectors, and punishment by fine or imprisonment for the sale of or offering for sale of any dressed meat not inspected on the hoof. The effect of the act is to prohibit wholly for sale in this State any fresh meat whatsoever, and the question arises whether such a prohibition is not a violation of the provisions of the federal constitution. First—We believe that this act violates the provisions of Sec. 8, Art. 1, of the constitution which gives Congress the power among other things: "To regulate commerce with foreign nations and among the several States and with the Indian tribes." Second, it violates the provisions of Sec. 2, Art. 4 of the Constitution: "The citizens of each State shall be entitled to all privileges and immunities of citizens in the several States." The first clause above mentioned has been called by the courts the "commercial clause" of the Constitution. There are certain principles that have been established by the courts in constructing it. The word "commerce" as used in the clause, whether "with foreign nations," "among the several States," or "with the Indian tribes," embraces all transportation purchase, sale, and exchange of all such commodities as are transported, bought, and sold by the usage of the commercial world. The power to regulate commerce as above defined is vested in Congress exclusively, and if Congress has failed to regulate any branch of such commerce it indicates its will that the same shall be left free, and not that the several states may regulate it. In *Welton vs. Missouri*, 91 U. S., page 275, the court on page 282 says: "The fact that Congress has not seen fit to prescribe any specific rules to govern interstate commerce does not affect the question. Its inaction on this subject when considered with reference to its legislation with respect to foreign commerce is equivalent to a declaration that interstate commerce shall be free and untrammelled." The question under consideration in the Missouri case was the validity of a Missouri statute declaring that whoever deals in the sale of goods or merchandise, the products of any other State, should be deemed a peddler, and provided for licensing such peddlers. The plaintiff in error was a dealer in sewing machines, manufactured in another State, and was convicted and fined for selling the same without license. The act was held void, being an interference with matters confided solely to Congress.

Naturally flowing from the two propositions above-mentioned is a third, viz.: Any act of a State legislature interfering in any manner with the free transportation, sale, or exchange between citizens of different States, of or in any article of commerce, is an attempted regulation of such commerce and therefore beyond the power of the State and void. There are, it is true, certain regulations of commerce that a State may make where their operation is from their nature local and where Congress has made no general regulation of the subject. But these regulations are considered more as an aid to than as a regulation of commerce. But counsel for the State claims that this act is valid as an exercise of the police power of the State, and as such ought to be upheld. In order to the correct disposition of this claim it is indispensable to have a clear understanding of the nature and extent of this power as given by courts and writers. Blackstone defines it to be "the due regulation and domestic order of the kingdom, whereby the inhabitants of a State, like members of a well governed family, are bound to conform

their general behavior to the rules of propriety, good neighborhood, and good manners, and to be decent, industrious, and inoffensive in their respective stations."

POLICE POWER.

The court then cites a large number of decisions on the nature and intent of police power and regulation and says:

The above definitions clearly disclose the great principle upon which the power rests—viz.: public safety. Any law which goes beyond this principle, which undertakes to abolish rights, the exercise of which does not infringe on the rights of others, or to limit the rights beyond what is necessary to provide for the public welfare and general security, cannot be in the police power of a government. The question has frequently arisen whether State acts, ostensibly as police regulations, do not intrude on the exclusive right of Congress to regulate commerce among the States under the constitutional provision above considered. The Supreme Court of the United States in considering this question has established certain well defined principles to ascertain what is and what is not an interference on the part of a State with interstate commerce. First: The police power of a State cannot be exercised with respect to a subject matter beyond its control. Regulation of interstate commerce is beyond State control, being confided exclusively to Congress. In the case of *Henderson vs. The Mayor of New York*, in a case under an act of the legislature of New York requiring every carrier of a passenger to give bond that they would not become a public charge for four years, the law was sought to be sustained under the police power to protect the State from paupers. But it was held void, being an attempted invasion of the rights of Congress. Justice Miller held that "this power frequently referred to in the decision of this court has been in general terms somewhat loosely called the police power. Whatever may be the nature and extent of that power, where not otherwise restricted, no definition of it and no urgency for its use can authorize a State to exercise it in regard to a subject matter which has been confided exclusively to the discretion of Congress by the Constitution. But however difficult it may be, it is clear from the nature of our complex form of government that whenever the statute of a State invades the domain of legislation which belongs exclusively to the Congress of the United States it is void, no matter under what class of powers it may fall or how closely allied to powers conceded to belong to the States."

It follows that if fresh meats, the sale of which are prohibited by this act, are articles of commerce, the act must be held void.

Second—In the exercise of police power over subject matters within their power the States cannot establish unnecessary or unreasonable regulations, and the courts will judge whether an act is a proper exercise of police power from its purpose and effect, notwithstanding its language or its ostensible affect. Such a right can only arise from a vital necessity for its exercise, and cannot be carried beyond the scope or that necessity.

DRESSED MEAT IS WHOLESOME.

A long array of decisions is given on this point.

Now, applying these well established principles to the act under consideration, we can see no reasonable theory upon which it can be upheld. First, there is no question, that fresh, wholesome meat is an article of extensive commerce among the States at the present time. Of late years its use has greatly increased and its shipment has been facilitated by the device of refrigerator cars. Meat is transported hundreds of miles in a short space of time, and when it reaches its destination it is as fresh and wholesome as when placed in the car. It is one of the greatest and most important articles in interstate commerce. And it is not in the power of this State to prohibit commerce in it. Justice Field, in *Bowman vs. Railway*, on page 501 says: "What is an article of commerce is determinable by

the uses of the commercial world and does not depend upon the declaration of any State." This consideration alone would seem decisive of the question. Fresh meat is an article of interstate commerce, its regulation is vested exclusively in Congress, therefore a State law regulating it is void. It is not an inspection law. It will not examine fresh meat to see whether or not it is wholesome. It puts all—the good and bad alike—under the ban of destruction. It utterly destroys interstate commerce in this article under the guise, it is true, of protecting the public health. But the public health does not demand for its protection that wholesome fresh meats, the products of other States, be destroyed. A State cannot exercise such arbitrary power, no matter under what guise. It is not necessary to enlarge. There is no mode of reasoning by which the act can be sustained, and the prisoner is discharged.

The whole decision takes up about 6,000 words and is rich in citations from the United States Supreme Court and State court decisions of such judges as Chief Justice Marshall, Justices Field, Miller, Matthews, and others. No step has yet been taken to appeal the case, and it is believed this will be the end of the Scheffer inspection law.

OLD MADEIRA.

JELLY MADE OF \$1,000 A BOTTLE WINE.

The most disgusted householder in the modern Athens just at present, so a special correspondent to the *Tribune* writes, is a Bacon street gentleman, whose family in the summer time resides at Nahant—"that slice of cold-roast Boston," as the exclusive watering place in question has been appropriately called. The other day, upon returning to his seashore villa from his daily avocation in the city, he remarked to his wife with some alarm that, having had some occasion to visit his town house for the purpose of assuring himself that everything was safe, he had sought in vain for six bottles of priceless old Madeira which were stowed away in a small cupboard by themselves for safekeeping.

"The cupboard in the corner near the bookshelf?" inquired the lady.

"Yes, indeed; that was the place."

"I'm sorry, my dear," said she, "but the fact is that I used those six bottles to make jelly with just before we came away. It was uncommonly good jelly, too, though of course I regret it much if I have taken any wine that you desired particularly to keep. But indeed there was none other handy."

"Could you not find some for your jelly that was worth less than \$1,000 a bottle?" asked the husband with a groan.

"A thousand dollars a bottle! Why, what can you mean?"

"Simply that I cannot replace those six bottles at that or any other price. They were my especial treasure, never intended to be drank save possibly at events in a lifetime. It was a brag of mine to say that I had that quantity of real old Madeira in my house; now it is gone and for jelly. Ye gods!"

"It was remarkably good jelly," was all the poor woman could think of saying by way of apology.

And it is no wonder that the gentleman of Beacon street was distressed. How many bottles of old Madeira do you suppose there are at present in the United States? About 100, perhaps, and connoisseurs in wine can tell you who owns pretty nearly every quart of it. Years ago a dreadful bug attacked the vines and exterminated them. The insect was subdued at length, and slips of the same varieties were planted, but alas! the new grape produced a different juice. The Madeira of to-day comes from the same island and the same vegetable, but it is no more like the original than chalk is like cheese. Hence the enormous value possessed by the small remnant of the ancient product. It can-

not be said that there is any quotation in the market for it. Simply it is not for sale. The few bottles of it that still exist are owned by persons in well-to-do circumstances who do not care to sell it at any price. A generation ago there was an old gentleman in Philadelphia who had the good fortune to possess a half a pipe of this precious wine, probably the largest amount owned at that time by any individual living; for even then its value had grown to be fabulous. He figured it up that the supply would last him, if he used one pint at dinner daily, precisely so many years, months and days. So, like a mariner in distress of water, he placed himself on an allowance of that much per diem, never on any account to be exceeded. Life was not worth living, he said, without Madcira at dinner, and when his little stock should come to an end, it was his intention to die with as little delay as possible. And so curiously enough, he did, within twenty-four hours of the time when the last small bottle of the "Crisis" vintage was wiped out.

THE KANGAROO IN COMMERCE.

EXTENSIVE UTILIZATION OF THEIR HIDES IN THIS COUNTRY.

There are 6,000 kangaroo skins received in Newark, N. J., every week. They are all tanned in one large establishment on Sussex avenue and are then made into fine shoes. Australia and New Zealand furnish kangaroo hides for the world. The kangaroos are killed in Australia about three hundred miles back from the coast, and are shipped from Melbourne, Sydney and Newcastle, in Australia, and from Masterton, in New Zealand. Up until 1869 the kangaroos were killed and eaten in Australia and their hides were cut into shoe-strings. But an Englishman named Brown in that year discovered the remarkable character of the leather and brought several thousand skins to this country. He tried to sell the hides to tanners, but they were shy of the novelty, and he had to sell them at a sacrifice to a bookbinder. The bookbinder made triangular corner pieces in ledgers and commercial books out of the skins, and so ascertained the good quality of the leather. It was in this way that the large leather factories were first attracted to kangaroo hide. The skin was found to be very tenacious and the compactness of the grain prevents its absorbing water, while the acids in blacking meet with an almost impervious substance. It was hard work for years to get the kangaroo skins. It was not until the Newarker, who now tans them, sent agents to Australia three years ago that the demand could be supplied. The characteristic climate of Australia and the pugnacity of the kangaroo makes hunting the hides dangerous. Winter starts in May and ends in December in that country. The rest of the year the heat is intense, the thermometer frequently reaching 140 degs. Eight men hunt together for kangaroos. They are called a "set." When brought to bay the kangaroo jumps like a flash for a hunter's chest and tries to crush it in with his forefeet. To prevent this each man wears across his breast a two or three inch thick matting. Armed with a spear, with a club attachment at the other end, they ride upon swift horses into a herd. With the agility and equispe of circus riders they stand erect upon their horses and use their spears and clubs. The kangaroo is able to jump clear over a horse. As the game is bagged it is skinned, and the skin is stretched on the ground and pegged down to prevent shrinkage. The flesh furnishes meat for the camp. Each man places his private mark upon his booty, and when they have 100 skins apiece, they return back to civilization. There are twenty varieties of kangaroos, among them the blue, red Wallaby, black, gray, and Forester, the latter furnishing the best leather, as it lives mainly in wooded sections. When the shipping ports are reached, the hunters dispose of the skins by auction to the highest bidders, and realize about 70 cents a pound. Kan-

garoo hunters make large profits. One man is known to have cleared \$4,500 free of living expenses in a single year. The tanning of kangaroo skins is confined to men employed by Americans, as other dealers cannot afford to pay the high prices for the raw material. The result is that Parisian and London shoe manufacturers buy their stock of kangaroo leather directly from Newark, and prominent dealers in Germany, Greece, Spain, and even Australia itself, obtain their supplies from the same. The manufacturer here scouts the idea that the original seven-league boots were made from the skin of the great Australian leapers.—*Exchange.*

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

August.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, crabs, clams, flounder, halibut, herring, lobster, mackerel, mussels, porgie, prawn, salmon, turtle, trout, sturgeon, whiting, weak-fish, rockfish.

VEGETABLES.—Beans, beets, cucumbers, cabbage, carrots, cauliflower, corn, egg-plant, lettuce, onions, parsley, parsnips, potatoes, squash, shallots, spinach, turnips, radish, rhubarb, tomatoes.

FRUITS.—Cherries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple, grapes, plums.

PRACTICAL RECIPES.

HERB SOUP.—Slice three large but young cucumbers, a handful of spring onions, and six lettuces; cut the last small. Put into a stewpan eight ounces of butter, and with it the above vegetables; when the butter has melted, cover, and let it stand over a slow fire an hour and twenty minutes. Add as much stock as may be required for the quantity of soup intended to be served; let it boil and simmer for an hour, then thicken with flour and butter, or three tablespoonfuls of cream. If desired to be colored, use spinach juice.

LAMB DRESSED WITH RICE.—Half roast a small fore-quarter of lamb, then cut it into steaks. Season them with pepper and salt; lay them into a dish, and pour in a little water. Boil a pound of rice with a blade or two of mace, a whole pepper; strain it, and stir in a good piece of fresh butter and a little salt. To it also add the greater part of the yolks of four eggs, well beaten. Cover the lamb with the rice, and with a feather put over it the remainder of the beaten eggs. Bake it in an oven till it has acquired a light brown color.

STICKS.—Sift together one quart of flour, a teaspoonful of salt, three teaspoonfuls of Horsford's baking powder. Mix together two ounces of melted butter, a heaping tablespoonful sugar, and three gills of cold boiled milk; beat it up and add to the flour. Beat the whites of three eggs, work it into the dough, flour the board slightly and turn the dough on the board; divide it in pieces as large as an egg, and with hands slightly buttered, roll them in long thin sticks; bake them hard and crisp in a hot oven.

CHOCOLATE CAKE.—One and a half cups sugar, half cup butter, three-fourth cup sweet milk, three eggs and yolk of one more, two cups flour, two teaspoonfuls baking powder, one full cup grated chocolate. Flavor with vanilla.

WINE OR CIDER JELLY.—Three cups sugar, one cup cold water, one package of Cox's gelatine, juice of three lemons and grated peel of one, one quart boiling water, two or three bits of cinnamon bark. Soak gelatine in cold water one hour, add to this the lemons, sugar and cinnamon, pour over all one quart boiling water, put in one pint of sherry wine or one pint of cider.

ORANGE JELLY.—Use two lemons and the grated peel of two oranges, juice of four oranges, sugar and gelatine as in wine jelly.

SUET PUDDING.—One cup chopped suet, one cup water, one cup N. O. molasses, four scant cups flour, two eggs, one cup chopped raisins, one teaspoonful soda. Boil three hours.

SAIL ON STEAMSHIPS.—Capt. F. Watkins, of the Inman Line Steamship City of Paris, says that fore and aft canvas is of no assistance to a fast steamer, not even for steadying purposes. Instead of increasing the speed he says that the spars and sails frequently retard them as much as a mile an hour. Within a few years he expects to note the absence of both canvas and spars from all the ocean flyers.

TREATMENT OF RABIES.—Dr. Pegrand claims to have discovered an efficient method of treating rabies. By injecting rabbits with the essence of the herb called tansy, he produced what he calls hydrophobic intoxication, or something very similar, and with virus thus obtained he mingled 10 per cent. of chloral. This prophylactic was injected into several animals which had hydrophobia, and two-thirds of the cases were cured.

THE NEW RAILWAY.—The new "slide" railway has been most successfully experimented on in Paris. The invention enables trains to run by means of water power, at a speed hitherto considered impossible. The cars travel on a film of water, and the friction is thus minimized. This system would seem peculiarly adapted for elevated railways in cities, being light, noiseless, smooth, without smoke, and thoroughly under control. A water train running at over one hundred miles an hour could, it is stated, be pulled up within thirty yards, climb up gradients of sixteen inches in the yard, descend with equal safety and run on curves of forty-four yards' radius. The cost of this system is said not to exceed \$40,000 per mile.

IODINE AND THE HUMAN BODY.

The influence of iodine, when presented in the form of iodide of potassium and especially in the form of the "double iodides," upon the human organization cannot be too highly estimated. When a person is in health its action is very small. The body seems to know instinctively that there is no need for the invaluable medicine and does its best to expell it immediately. In ill-health the conduct is exactly the opposite. The iodide is absorbed rapidly and in a short while is exerting itself in every part of the system. It is interesting to watch the changes it effects. Before its introduction, the body is more or less in a condition of lethargy. The stomach is inert and at times foul with secretions which are not carried away as they ought to be; the processes which produce pepsin and pancreatin, the two chief substances whereby digestion is carried on, are weak and inactive; the liver is torpid and shows itself in the yellowish tinging of the white of the eye and the sallow color of the skin; the kidneys lose their tone and act imperfectly in some cases and morbidly in others. Even the pores and glands are affected and yield a transpiration and exudation that are often perceptible and at times unpleasant in character. The blood becomes charged with humors which frequently display themselves in pimples, rashes, eruptions, boils, eczema, fever-sores, water blisters, and other cutaneous disorders; the brain and nerves lose their vitality, the sufferer becoming moody, depressed, and forgetful from the one, and weak, ailing, and painful from the other. In most instances he is said to have malaria or to be "out of sorts;" in others, where the symptoms are more pronounced and definite, he is said to have some specific disease. Chemistry has not yet determined the

exact action of the iodides upon this mass of corruption. When they touch the lining of the mouth, they stimulate the salivary glands and more especially those on the side of the jaw which produce the thin and water-like saliva. One result of this is to wash away some of the abnormal coating of the stomach. When they reach the latter they irritate its walls and excite, in all probability, every tissue in its neighborhood. The consequence is a quick increase in the amount of fluids poured out into the digestive cavity and a still further washing. They pass from the stomach to the small intestines whose absorbing power they augment and which they irritate very slightly. This irritation causes in many instances a mild aperience which is always conducive to physical welfare. They are absorbed at this point and now in liquid form are transferred by the assimilative processes into the blood. Here their direct action though small is appreciable. They seem to promote the breaking-up of the microscopic globules upon which all life depends and to facilitate the generation of infinitesimal amounts of hydrochloric acid, the oxygenation of hydrocarbons and the other exquisitely delicate actions and reactions which go on from birth to death.

In this wise they break up and destroy many of the impurities which float in the blood and others which have been lodged in the fine capillary veins or deposited in out-of-the-way tissues. Thus they act directly as a blood-purifier. Floating in the blood and forming part and parcel of it they rapidly reach every vital organ and every nerve and tissue. Upon the former their influence is well known. With each and all it wields a somewhat exciting action and so stimulates them to renewed activity. This is particularly the case with limphatics and all other functions whose secretion and excretion keep the organization free from humors and morbid elements. They seem to affect the pneumogastric much more than the cerebral nervous system—their action being tonic and strengthening. As a result there is a change in the feelings concomitant with that in the condition. The patient feels stronger, brighter and heartier. When to the iodides are added the great vegetable alteratives, Honduras sarsaparilla, stilingia, yellow dock and podophyllin in scientific proportions, the beneficial results are vastly increased. The blood is quickly purified, the tongue becomes clean, the breath sweet, the eyes bright and the complexion clear. The muscles regain their power, the

nerves their strength and the brain its full activity. This combination occurs at its best in only one preparation, Ayer's Sarsaparilla. This is a simple but scientific combination of the compounds mentioned, made after the formula of Dr. J. C. Ayer. The perfection of its formula and of its manufacture are attested by the fact that Ayer's Sarsaparilla is to be found on the shelves of nearly every drug store upon the globe and in the office-cabinets of many leading physicians, while thousands of human beings bear testimony to its unapproachable virtues.

BUSINESS NOTES.

SOMETHING WORTH KNOWING.

It has been a matter of frequent comment that ARMOUR & Co., of Chicago, the largest manufacturers in the world of all forms of animal food, and with their unrivaled facilities for selecting beef, did not make an Extract of Beef. The reason is now seen to be, that these gentlemen, while convinced for several years that there existed a demand which they were eminently qualified to supply, were determined that an Extract bearing their name should be beyond all peradventure the finest in the world. They took the matter up in a scientific manner, and the results of their long and patient investigations and experiments are now seen in Armour's Extract of Beef, which in solid and fluid form is now offered to consumers. Armour's Extract possesses a delicious, real Beef Flavor, and is entirely free from harsh or burnt taste and smell. It retains in a marked degree the nutritive properties of Beef, and is highly recommended by leading physicians everywhere.

THE HARTSHORN SHADE ROLLERS.



These shade rollers are sold in every city, town and village in the United States and are shipped to every civilized part of the world. Every roller contains a finely tempered steel spring, adjusted so as to perform the maximum work, and strong and not liable to get out of order. Everything used in their manufacture is subjected to careful inspection and every one made is

guaranteed to perform the work noted on the label. Mr. Stewart Hartshorn, the inventor and manufacturer of these shade rollers, keeps two factories running full time in their production, one in East Newark, N. J., and one in Muskegon, Mich. The engraving shows the one in East Newark. All the buildings are of brick and were built for the particular purpose for which they are used. They are well lighted, clean, and every precautionary means has been adopted for safety from fire, etc. Most of the employees entered the factory as boys and have grown up with the business. All receive good treatment and good wages. Mr. Hartshorn was the originator of the spring-stop-roller and the large market for them to-day has been worked up through his exertions. Like all useful things they have their imitators, but as the interior is covered by patents at every point, the imitation is confined to the outside. The principle actuating every department of this establishment is that perfect goods must be turned out, and with the head of the house having an experience gathered in forty years of manufacturing spring rollers, mistakes are not liable to occur.



Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Pantry & Co.
 Producers of the
ECLIPSE
 CHAMPAGNE,
 530 Washington St.
 SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
 PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
 CHICAGO: C. JEVNE & CO., 110 Madison St.
 ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
 THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
 SOLE AGENT.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.



PUBLISHED EVERY SATURDAY.
 In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer & Decorator.

Subscription, \$6.00 a Year in Advance.
 SAMPLE FREE.

THE BEST ADVERTISING MEDIUM OF ITS CLASS
 PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.
 Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY, 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
 23 Warren St., New York.

PRINTERS' INK.

A JOURNAL FOR ADVERTISERS.

PRINTERS' INK is just what it purports to be, "a journal for advertisers." It is issued on the first and fifteenth days of each month, and is the representative journal—the trade journal, so to speak—of American advertisers. It tells the intending and inexperienced advertiser in plain, comprehensive articles how, when, and where to advertise; how to write an advertisement; how to display one; what newspapers or other media to use; how much to expend—in fact, discourses on every point that admits of profitable discussion. If you advertise at all, PRINTERS' INK can help you. Perhaps you expend but Ten Dollars a year in advertising; if so, PRINTERS' INK may show you how to obtain double the service you are now getting for one-half the money. A year's subscription costs but One Dollar: a sample copy costs but Five Cents. Advertising is an art practised by many but understood by few. The conductors of PRINTERS' INK understand it thoroughly. Surely their advice, based on an experience of more than twenty-five years, will help you. Address:—



C. P. ROWELL & CO'S
 Newspaper Advertising Bureau
 10 Spruce St., New York.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

GABRIEL'S MARRIAGE,

By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,

By ETTA W. PIERCE.

THE RIGHTFUL HEIR,

By M. T. CALDOR.

THE DOUBLE HOUSE,

By MISS MULOCK.

TWICE SAVED,

By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents.**

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 20, 35 & 40 cts. Excellent Family Teas 50 & 60 cts. Very Best 65 to 70 cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

THREAD DISEASE.—Silk thread is soaked in acetate of lead to increase its weight, and persons who pass it through the mouth in threading needles, then bite it off with the teeth, have suffered from lead poisoning.

BRINE BLEACHING.—It is reported that an Englishman has succeeded in producing from natural brine, by means of electricity, bleaching powder, caustic soda, and a solution to be used in bleaching the most delicate fabrics.

THE NEGRO'S SKIN.—The function of a negro's black skin is supposed to be the conversion of the sun's light into heat. The heat thus generated remains in the skin and does not penetrate to the deeper tissue. Being thus provided with a sun-proof armor, the negro can stand an amount of heat that would be fatal to a white man, and he runs hardly any risk of sunstroke.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

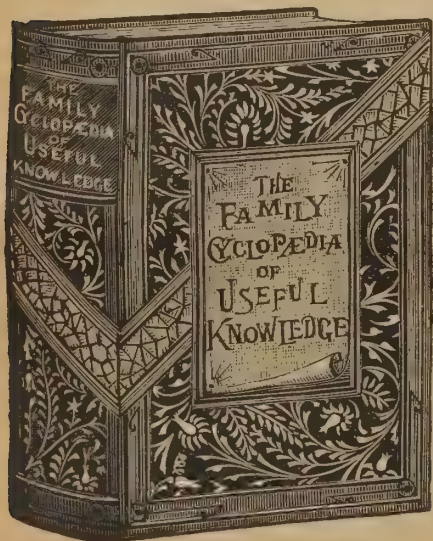
"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



152

Wonder and Satisfaction

will be your experience when you first try Pearlina. You'll wonder at its miraculous cleansing-time-labor-saving properties. Wonder why you had not discovered the truth before. You'll be satisfied that all the good things you have read or heard of Pearlina are true—if you've heard bad, you'll be satisfied 'twas false. There's hundreds of uses for Pearlina beside the laundry and house-cleaning—for washing dishes, china, glassware, silver, straw hats, felt hats, bead trimmings, marble, bronzes, oil paintings, carpets; in fact, everything in the house, from top to bottom—all that's washable—will be far more satisfactory because of the liberal use of Pearlina. It is harmless.

Beware Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearlina, or "the same as Pearlina." IT'S FALSE—they are not, and besides are dangerous. Pearlina is manufactured only by JAMES PYLE, N. Y.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.		Price including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 60 1 60	Household.....	1 10 1 25
Bailou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.



BLAIR'S PILLS

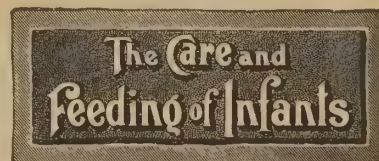
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 34,
round box 14 pills.
At all druggists, and 224 William St.,
New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, COODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

Subscriptions \$1 per year. Now is the time to subscribe.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING Co.,

19 Park Place, N. Y.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

Crayon Portraits.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

A BOOK THAT EVERY LADY NEEDS.

THE LADIES' GUIDE TO FANCY WORK.



printed, and, as above stated, contains nearly 300 illustrations. It will be sent by mail, post-paid, upon receipt of price, only **Twenty-five Cents.**

How to make the Home Beautiful at small cost is a subject now uppermost in the mind of every lady of good taste. This book is a complete practical instructor in every description of Ladies' Fancy Work, and the only first-class work of the kind ever published at a low price. It contains nearly **300 Illustrations**, and the instructions given are so plain and simple that by their aid even a child may make the many beautiful things which the book describes. It gives plain and practical instructions in Drawing, Oil Painting, and making Wax Flowers; likewise all kinds of Fancy Needle Work, Artistic Embroidery, Lace Work, Knitting, Tatting, Crochet and Net Work. It contains designs for Monograms, Initials, Cross Stitch Patterns, Knit Edgings, Embroidered Borders and Corners, Macrame Work, Applique Embroidery, Berlin Work, Java Canvas Work, Tricot and Burlaps, Antique Lace, Beaded Lace, Darned Net Work, Tiddies, Lambrequins, Ottoman, Counterpanes, Rugs, Carriage Robes, Brackets, Wall Pockets, Waste Paper Baskets, Work Boxes, Work Baskets, Work Bags, Pen Wipers, Hanging Baskets, Catchalls, Pin Cushions, Footstools, Handkerchief Boxes, Glove Boxes, Card Baskets, Sofa Pillows, Table Covers, Table Scarfs, Screens, Scrap Bags, Hand Bags, Table Mats, Toilet Mats, Lamp Mats, Lamp Shades, Pillow Shams, Pillow Sham Holders, Curtains, Toilet Stands, Picture Frames, Slipper Cases, Letter Cases, Toilet Sets, Clothes Brush Holders, Cigar Boxes, Hassocks, Sachets, Fancy Purses, Slippers, Dressing Gowns, Music Portfolios, Knife Cases, Fans, Flower Baskets, Plant Stands, Flower Pot Covers, Shawls, Dress Trimmings, Window Shades, Feather Work, Spatter Work, Leaf Photographs, and many other things. It is a book that should be in every American household. With it as a guide you may make hundreds of beautiful things for the adornment of your home and for presents to your friends at the most trifling expense, and no employment for ladies is more fascinating and useful. The book will repay its small cost many times over in a very short time. Every lady will be delighted with it. It is a large book of 64 large 3-column pages, with handsome cover, is finely

INVALUABLE TO EVERY HOUSEWIFE!

THE MODERN COOK-BOOK AND MEDICAL GUIDE.

This is practically two books in one—a perfect cook-book and a perfect medical book—and there is so much in it, and so much care and pains have been taken in its compilation, that we feel perfectly safe in asserting that the Cooking department is fully the equal, in quantity and quality, of any low-priced cook-book published, and the same as to the medical department herein as compared with any low-priced medical work on the market. It is a complete encyclopedia of domestic information, and we fully believe that no lady, after having it in the house a short time, would willingly do without it for ten times its cost. The cooking recipes number 627, and include Breakfast Dishes, Soups, Meats and Poultry, Fish, Vegetables, Salads and Relishes, Bread and Rolls, Jellies and Preserves, Puddings and Pies, Fancy Dishes, Cakes, Confectionery, Ice Cream and Summer Drinks. The compilation of this department was supervised by a practical housekeeper, every recipe will be found reliable, and has been pronounced one of the best, most complete, and practical cook-books published. The Medical Department will be found fully the equal of any doctor book published at one dollar or less. It tells you how to cure, by simple means, available in every home, Malaria, Pneumonia, Poisons (antidotes for), Nervousness, Measles, Rheumatism, Toothache, Wounds, Sprains and Bruises, Weak and Inflamed Eyes, Dust in the Eye, Sore Throat, Scall Head, Whooping Cough, Neuralgia, Earache, Worms, Warts, Burns and Scalds, Headache, Offensive Breath, Bleeding (to stop), Cancer, Consumption, Felons, Dyspepsia, Diarrhea, Croup, Corns, Scalds, Lice, Itching, Boils, Tobacco Appetite, Coughs and Colds, Cold in the Head, Catarrh, Scarlet Fever, Rose Bleed, Baldness, Smallpox, Sleeplessness, Ringworm, Chills, Costiveness, Cholera Morbus, Bright's Disease, Convulsions, Mumps, Superfluous Hair (to remove), Hysterics, Colic, Sciatica, Biliousness, Nettle Rash, Typhoid Fever, Ingrowing Toe Nails, Abscess, Stammering, Hemorrhage, Asthma, Hydrophobia, Scrofula, Bronchitis, Lockjaw, Erysipelas, Hoarseness, Chills and Fever, Dropsy, Bunions, Fits, Dandruff, Scurf, Quinsey, Heartburn, Styes, Liver Complaint, Cramps, Corpulence, Sunstroke, Knock-knees, Indigestion, Jaundice, Gout, Prickly Heat, Ulcers, Salt Rheum, Fainting, Indigestion, Boils, Tobacco Habit, Gray Hair (to prevent), Cholera Infantum, Deafness, Stiff Neck, Piles, Choking, Freckles, Pimples, Sunburn, Chapped Hands, and many other ailments. It will save you many dollars annually in doctors' bills and patent medicines. Who can doubt that twenty-five cents invested in such a useful and valuable book as this would be the best and most profitable investment that could possibly be made of so small a sum? **THE MODERN COOK BOOK AND MEDICAL GUIDE** is a large book of 128 pages, neatly bound in colored covers. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents.**

AVOID LITIGATION! BE YOUR OWN LAWYER!

EVERYBODY'S LAW BOOK.

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights; and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic Law, by a prominent member of the New York bar, containing concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Affidavits, Agency, Agreements, Apprentices, Arbitration and Award, Assault and Battery, Assignments, Attachments, Bills of Exchange, Bills of Lading, Breach of Contract, Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardian and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warranty, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executors' and Administrators' Accounts, Interest Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. **EVERYBODY'S LAW BOOK** is a large volume of 128 pages, 12mo, with handsome cover. It will be sent by mail, post-paid, upon receipt of only **Twenty-five Cents.** Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

For School Exhibitions and Public and Private Entertainments.

The Complete Book of Recitations and Dialogues.

This book contains, so far as we know, the best and most complete collection of recitations ever published in a single volume. All the popular recitation books of the day have been consulted and the cream selected, and the result is a mammoth collection of recitations which cannot fail to answer every requirement. There are hundreds of them, and they embrace every kind and character of recitations, adapted to every need, humorous, dramatic and pathetic—from short juvenile pieces for the little boys and girls on Friday afternoons to pretentious dramatic works for the professional elocutionist. We have space to enumerate the titles of only a very few of them, as follows: "Ostler Joe," "Asleep at the Switch," "The Last Hymn," "The Deadman's Journey," "The Engineer's Story," "Cripple Ben," "Two Loves and a Life," "The Mother-in-Law," "The Old Parson's Story," "Taking Toll," "The Engineer," "The Tramp," "Tim's Dream," "John Barry's Dream," "Too Late," "The Book-keeper's Dream," "Saving Mother," "Garret must not Ring To Night," "The Palmotto and the Pine," "The Polish Boy," "Drafted," "The Blacksmith's Story," "The Burning Prairie," "Guilty or Not Guilty," "The Foreclosure of the Mortgage," "The Clown's Baby," "Bill Mason's Ride," "How we tried to Whip the Teacher," "Driving Home the Cows," "Somebody's Mother," "When the Tide Goes Out," "The Old Farmer's Elegy," "Widder Spriggins' Daughter," "The Light-keeper's Daughter," "How the Parson Broke the Sabbath," "Which Shall It Be," "Somebody's Darling," etc., etc. In addition to the Mammoth collection of Recitations contained in this book, it also contains a number of fine Dialogues, mostly humorous, which are "Marrying a Pious Man," "The Train in a Tunnel," "What's in a Name," "The Graduate," "The Female Astrologer," "Proposing by Proxy," "Story-Telling," "The Morning Call," etc. Those who have sent for books of this character and been disappointed in them, owing to the meagerness and inferiority of their contents, will be happily surprised in this book, for not only is it the largest collection of Recitations and Dialogues ever sold at a low price, but great care has been taken in the selection of its contents, the aim being to include only the best. It is a splendid book, guaranteed to give satisfaction. **THE COMPLETE BOOK OF RECITATIONS AND DIALOGUES** is a large book of 64 large 3-column pages, with handsome colored cover. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents.**

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the **AMERICAN ANALYST** for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the **AMERICAN ANALYST**. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides. It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, ONLY THREE possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppel's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. R. H. CRIPPS, M.D., F.R.S.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-VERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract" or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfuous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pittings, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist, 125 West 42d Street, NEW YORK CITY, N. Y. P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the AMERICAN ANALYST. Apply 19 Park Place, N. Y.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK. WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS.

VELVETIES, CANNED GOODS, PRESERVES, SYRUPS, BRANDY FRUITS.

GORDON & DILWORTH

563 & 565

TABLE DELICACIES

GREENWICH ST. NEW YORK

OLIVES, CAPERS, CHUTNEY, SALAD, DRESSING, MINCE MEAT, PLUM PUDDING, &c.

CHOICE & DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

Pure  **LAGER BEER,**

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS

AND
PRIVATE FAMILIES

BY
Beadleston & Woerz
291 W. 10th St. New York.

Orders by Postal Card
promptly attended to.

LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cusa ROBINSON'S
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



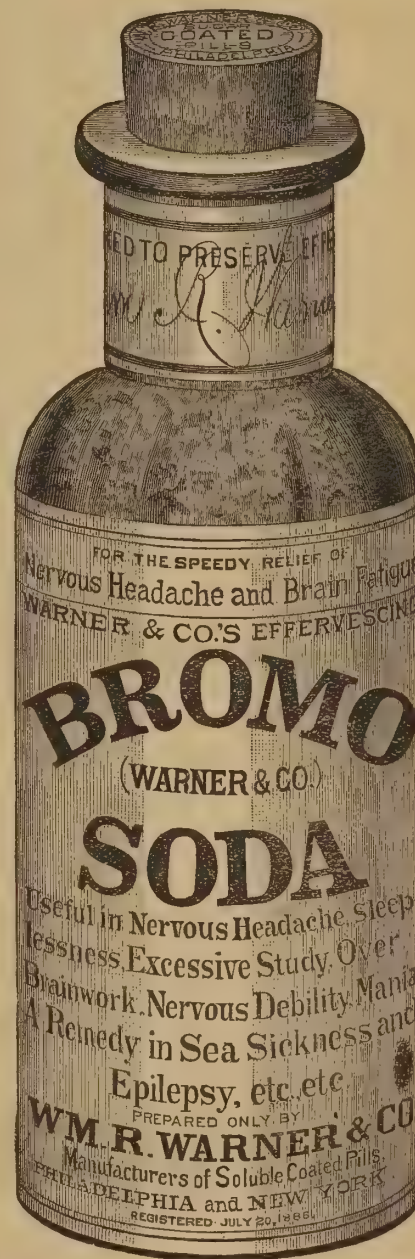
Sura Cusa

A CURE

FOR

Sick and Nervous

HEADACHES.

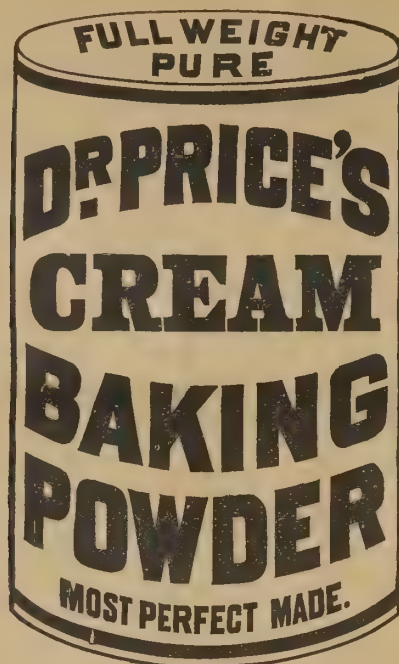


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Kellier & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

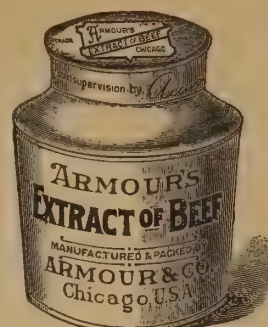
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.



[SOLID.]

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

**ARMOUR'S
EXTRACT OF BEEF.**

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

COLDEN'S
ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."
LIQUID
BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D. F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 36.

NEW YORK, THURSDAY, SEPTEMBER 5, 1889.

WHOLE No. 132.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O. Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Bicarbonate of Soda.....	422
Coal.....	423
Correspondence.....	424
Deadly Bath.....	423
Domestic Dietetics.....	424
Editorials.....	421
The Application of It; Horse Car Manners; Offal Wagons; Vacation—Recreation; Milk Analysis.	
Humidity and Sunstroke.....	423
Modern Explosives.....	422
Pope's Punch.....	423
Tobacco Contrasts.....	422

THE APPLICATION OF IT.

The *Las Vegas Stock Grower* must have surprised its readers when, a few weeks ago, they found in its columns, sandwiched between an article on fattening cattle and another on spaying cows, a very able sermon by the Rev. F. S. Brush from the text "God has made of one blood all the nations of the earth." The subject was the brotherhood of mankind, and the lesson sought to be conveyed that no man should wrong his brother, and as all men are brothers a liberal interpretation of the text would require all men to be honest. Not a word in the whole sermon as quoted by the *Stock Grower* could by any ordinary means have been applied to the meat dressers of Chicago, any more than to the Shah of Persia, the President of the United States, or to any one particular person whatever. Notwithstanding this, our contemporary, by a lurid headline, "The Big Four touched up in a forcible way," seek to apply the sermon in an impertinent personal manner to those gentlemen. As one of that mythical four is of the Hebrew

faith, and therefore does not believe in St. Paul's teachings, the sermon to reach him might well have been based on the text, "Thou shalt not bear false witness against thy neighbor," which is, as the *Stock Grower* may as well be reminded, one of the ten commandments. But such a sermon as the one referred to might be founded on a hundred different texts and still be misapplied. We are forcibly reminded of an old Nantucket story. A certain sea captain hailing from that ancient port, whom we will call Johnson, was a nominal member of the orthodox church there, and having unfortunately gotten the reputation of being the biggest liar in that neighborhood, his brethren thought that they could perhaps reclaim him by inducing their minister to preach a sermon on the evils of lying, on the first Sunday that Captain Johnson should be present to hear it. Accordingly, a forcible sermon was preached. After service one of the deacons took Captain Johnson by the arm and said: "Well, Captain, what did you think of that sermon?" To his utter astonishment Captain Johnson replied: "It was beautiful; it was such correct word painting; yet I could not help thinking how it must have hurt Captain Ames's feelings." All the good sermon had been preached in vain for Captain Johnson. So it is with the *Las Vegas* sermon. It evidently was preached in vain for the *Stock Grower*. The editor of that paper would not recognize the image in the mirror held before him, but maliciously contorts it to erroneously apply it to the "Big Four." What has the "Big Four" done to the *Stock Grower*? Not many weeks ago that paper was in a fair way to penitence. It virtually admitted that it had been sinful in its malicious attacks upon the dressed beef men, and while commending their businesslike ways, held them up as an example for its readers and promised to mend its own conduct. Alas! that it should have become a backslider so soon. Let the *Stock Grower* again humbly take its place on the anxious seat. Perhaps it yet will have grace enough to correctly apply the text to its own sad and sinful condition.

HORSE-CAR MANNERS.

It has frequently been remarked that in Southern cities one never sees a lady standing in a horse car while men are sitting. These bad manners of men in Northern and Western cities are to be deprecated. A woman is never able to stand up in a street car without serious injury to her health. It is true, in the abstract, that a man who has paid his fare is entitled to a seat; but where the car company fails in its duty to supply sufficient seating capacity, a man should be willing to forego his rights in favor of a woman. Another phase of this question should not be lost sight of. Where we find men willing and ready to relinquish a seat for a woman, we also find women ready and quick to make room for men who are standing up. While in New York street cars it seems to be the practice to let women stand, it is also the general custom among

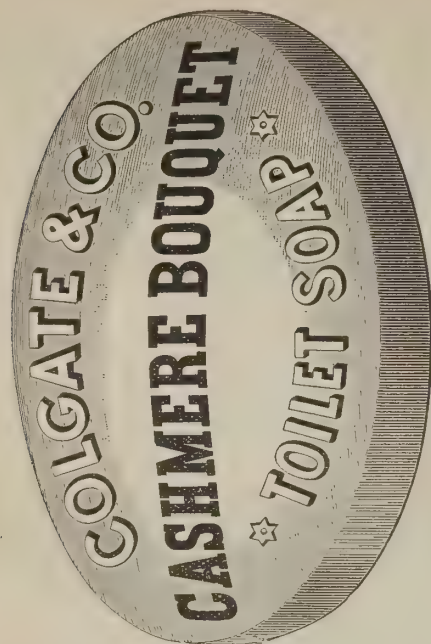
women to ignore the rights of men and even women to seats by occupying more than their proper share of the seat and will only move, and then grudgingly, when specially requested to do so. A little less selfishness and more courtesy on both sides would work a wonderful change for the better. How would it do for each of our readers to try for a short time a little more regard for the rights as well as comforts of our fellow passengers in horse cars?

OFFAL WAGONS.

Our Health Department has not as yet taken any steps to prevent the gatherers of swill and bones from restaurants and butchers from polluting the atmosphere with the foul odors of decomposition. We made a friendly suggestion to the president of that department a few weeks since. Why has he not acted on it? We renew the matter now, and head this article with the Simon pure Boston name of those odoriferous vehicles in the hope of thus attracting Mr Wilson's attention. We shall be persistent in this effort and hope that the president will devote a few minutes to this pressing demand.

VACATION—RECREATION.

Webster tells us that vacation means being free from a duty or service, freedom from interruption, trouble or perplexity, in one word, leisure. Recreation means the state of being recreated, refreshment of the strength and spirits after toil, sport, amusement, diversion. How far our modern mode of taking a vacation differs from this standard is a problem of great importance. There can be no doubt that we all need rest, and the majority of toilers take this rest, but it is taken in many different ways. We perhaps all work harder than our fathers worked, but we do not work as much as they did. We take our annual summer outing, we have our Saturday half-holiday, the eight hour law, all modern devices which our forefathers would have stigmatized as wasting time. The important question arises, does our modern vacation recreate. If after we return from our vacation we are better fitted for work and do not feel more tired than when we started; if our health and strength has been renewed by our vacation we have been benefited, otherwise it would have been better if we had continued in our old routine of labor. It is a safe assertion to say that many who start out with the real purpose of taking a beneficial vacation entirely fail of the purpose, because they do not apply the same common sense to their vacations as they do to their business. The fatigue of constant travel, dissipation late hours, improper food, over-exertion in walking, riding, or even at play, are not sensible vacation methods. Being bored at some stupid backwoods resort and confined for amusement to reading, all may be changes from our routine ways but do not tend to recreation. A change is necessary, but the ordinary laws of health cannot be included in this change without in-



jury. He who would be benefited by a change and who wishes to return from his vacation refreshed and with renewed strength to resume his duties with greater vigor, must take his vacation in a healthy locality, differing from that where he lives the rest of the year; he must find employment both for mind and body which will amuse and rest, keep regular hours, and eat healthy food, easy of digestion and assimilation. With such vacations as these, vacations will be recreations and a benefit; otherwise they will be failures and an injury.

MILK ANALYSIS.

The *New York World* says:

The chemical analysis of milk by the Board of Health is not looked upon with favor by Police Justices when milk dealers are brought before them for violations of the Sanitary Code. Monday, in the Harlem Court, Justice Weld discharged two dealers charged with selling impure milk. The evidence showed that by chemical analysis the milk was bad, while it still stood the lactometer test.

What else can be expected from New York Police Justices? It is a well-known fact that the lactometer will show a watered milk to be apparently better than pure milk, and the obvious reason for this has been explained so often that it is useless to repeat it here. The lactometer is not infallible but it is a help to a milk inspector; but a milk analysis made by a competent chemist is positive evidence of the character of the milk. If Police Justices, however, prefer to decide a case according to the political pull of the prisoner, our milk inspection will be in vain. The same rule also applies to the appointment of chemists by the Board of Health. A good chemist is seldom a good politician. This rule works both ways.

BICARBONATE OF SODA.

SOME COMPARATIVE ANALYSES WORTH EXAMINING.

This very useful article, perhaps better known as baking soda, may be found in every household throughout the land. It is cheap, but varies considerably in quality. Professor F. P. Dunnington, of the University of Virginia, has made an analysis of those brands which are generally found in the market. His published results, as given below, will be readily understood when it is added that the brand containing the largest percentage of sodium bicarbonate, and the smallest percentage of other matter, is the best.

The specimens which have served for this investigation were furnished by Mr. C. B. Fleet, the Secretary of the Virginia Pharmaceutical Association, and were purchased in open market.

	NATHOMA.	DWIGHT'S.	CHANCE'S.	SQUIRE'S.	SOLVAY PROCESS.*	CHURCH'S.	TAYLOR'S.
Sodium Bicarbonate.....	97.6750	96.5160	95.8440	93.7440	89.6280	85.2600	86.1000
Sodium Carbonate.....	.9010	1.7370	2.8380	4.2580	6.8040	9.6740	7.5790
Sodium Sulphate (anhyd.).....	.3903	.3895	.6792	.3757	.0260	.2276	1.9180
Sodium Chloride.....	.1630	.5950	.0326	.0250	.1870	.7910	1.4600
Moisture.....	.7750	.6750	1.0800	1.4850	3.0330	3.8700	2.7720
Silica.....	.0135	.0255	.0585	.0170	.0015	.1300	.1080
Alumina.....	.0465	.0050	.0060	.0355	.0020	.0030	.0045
Ferric Oxide.....	.0052	.0037	.0032	.0057	.0042	.0012	.0052
Lime.....	.0022	.0002	.0037	.0000	.0357	.0027	.0027
	99.9717	99.9469	99.9452	99.9452	99.7214	99.9595	99.9494

* Also a little ammonia.

MODERN EXPLOSIVES.

DYNAMITE, BLASTING GELATINE, AND BELLITE, AND THEIR POWER.

The chemistry, physics, and practical uses of gunpowder, dynamite, and other explosives, formed the subject-matter of an interesting lecture delivered March 5, before the Philosophical Society of Kilmarnock, by Mr. John Guthrie Kerr, M. A., lecturer on physical science in the E. C. Normal College, Glasgow, reported in the *Iron and Coal Trades Review*. After dealing with the knowledge possessed by the ancients of the properties of saltpetre in relation to bituminous bodies and the experiments of Roger Bacon, the lecturer said that the action of gunpowder, so far as results went, was similar to that of all explosives—out of a small mass a large volume of gas was rapidly developed at a high temperature and there followed a straining, displacement, or shattering of such obstacles as opposed the charge. The problem which had to be solved was the obtaining of an explosive more powerful in its effects, capable of being manufactured, transported, and handled with more safety, having greater resistance to the influence of water, and emitting, on explosion, less baneful gases than gunpowder. The solution of the problem commenced with Sober's discovery of nitro-glycerine in 1846. This explosive, which is an ether obtained from the alcohol glycerine by the action of nitric acid on glycerine in the presence of sulphuric acid, remained a laboratory curiosity for seventeen years. Then came Alfred Nobel, at once scientist, engineer, and enterprising man of business. He took the dangerous liquid, dissolved it in methylated spirit, and found transport

safe. Adding water the nitro-glycerine separates and may be used. The next stage was also an adulteration. Near Hanover are large beds almost wholly composed of diatomaceous relics. This "kieselguhr" has great absorbing gifts, and Nobel found it possible to completely conceal seventy-five parts of the liquid in twenty-five parts of this powder. This mixture—dynamite as now made—he found capable of standing the severest tests. Before a commission of inquiry, one fifty-six pound box of dynamite was burned without explosion. Another was allowed to drop over a cliff 130 feet high to rocks below, and, while the box was smashed, the dynamite was not affected. Nitro-glycerine, however, exudes from dynamite immersed in water, and Nobel's next effort was so to fix the nitro-glycerine that the danger arising from this might be averted. Further, it seemed desirable that the fixing compound should not be inert like "kieselguhr." This was affected by utilizing Pelouze's discovery of gun-cotton (tri-nitro-cellulose) in 1838. This substance, itself an explosive, but with slight defect of oxygen, was found to dissolve in nitro-glycerine, which contains for explosion a slight excess of oxygen, and with these two was formed the theoretically perfect explosive, blasting gelatine. The parts are 3 per cent. of gun-cotton to 97 per cent. of nitro-glycerine. In explosive effect, blasting gelatine is 50 per cent. better than dynamite, and is described by Sir Frederick Abel, our greatest authority on explosives, as the cheapest, the safest, and most perfect. It is entirely unaffected by water, and cartridges which have been immersed for seven years in water have at the end of that time developed their full power when detonated. Gelatine-dynamite is a modification of blasting gelatine, somewhat cheaper in manufacture, and having in use more of a heaving action. It is made of 80 per cent. of blasting gelatine, not quite gelatinous, wood, meal, and saltpetre forming the other 20 per cent., and is largely used in the fiery mines in England as the cartridge in Settle's patent. This invention consists of a water-tight bag in which the cartridge is kept in position in the middle of the water in the bag by tin supports. The charge is exploded by a detonator set off by a current of electricity. No flame follows the explosion and accordingly the risk from fire-damp is minimized. In bellite, the discovery of Carl Lamm in 1887, the proportions are five parts of the ammonia salt to one part of di-nitro-benzol. This explosive is said to be 30 per cent. stronger than dynamite, absolutely safe for transport, and flameless. Regarding entire absence of flame in the explosion of those nitro-benzol compounds, there seemed to be want of evidence as to the effects of other than comparatively small charges under favorable conditions. In the meantime the claim could not be considered as made good, whatever the promise might be. Compared with blasting gelatine, bellite is inferior so far as concerns power of withstanding water, as might be inferred from the presence of such a large proportion of nitrate of ammonia.

TOBACCO CONTRASTS.

WHAT'S ONE MAN'S POISON IS ANOTHER MAN'S FOOD.

SMOKED HIMSELF TO DEATH.

NEWBURG, N. Y., August 15.—William C. Van Wyck, an inveterate smoker, has died from the effects of nicotine poisoning. His last illness had many of the symptoms of a cancer in the stomach. A post-mortem examination revealed the fact that so thoroughly had his system become impregnated with nicotine that the stomach and other organs of the body had become unable to perform their functions.

SHE HAS SMOKED A PIPE FOR FIFTY YEARS.

BOSTON, August 25.—At Manchester-by-the-Sea lives Mrs. Stephen Danforth, who for the past fifty years has indulged in immoderate pipe smoking. The love for tobacco originated in Virginia, of which State she is a

native. Mrs. Danforth does all the domestic work of her husband, upon whom old age has laid a somewhat heavy hand; but in all her avocations the pipe is seldom unlighted, and her average consumption of the weed is twelve bowfuls a day. Mrs. Danforth will be 97 years old on her next birthday, and has lived at Manchester for the past 60 years.

THE POPE'S PUNCH.

THE HISTORY AND COMPOSITION OF ROMAN PUNCH.

The history of *ponche à la romaine* is curious. It had been the summer refreshment of successive Popes for over eighty years, and their *chefs* were threatened with all kinds of horrors and punishments if they ever divulged the secrets of its preparation. When Napoleon invaded Italy in 1796, this terrible interdict was broken through; a son of Pius VI.'s chief confectioner, by name Molas, as soon as he found the French were conquerous, ran away from his father and united his fortunes with them. This young man became the favorite servant of the Empress Josephine, and after her death became cook to the Russian Prince Lieven, whom he accompanied to London when that Prince was appointed Ambassador to the Court of St. James. This Russian first made this Papal beverage in London by introducing it at the Prince's table. The Prince Regent asked for the recipe, and permitted copies to be given to a select few of his friends, and by degrees it became better known, and is now well-known all over the world. The original Vatican recipe is: "Prepare a very rich pineappleade or sherbet; have it a little tart with lemon-juice, taking the greatest care that none of the zest or oil from the yellow rind, or the bitterness from the white underlying pith, be allowed to enter into the composition of this sherbet. In order to be certain of this, it is better first to grate off the yellow rind from the lemons, then to carefully remove all the white pith, and, 'to make assurance doubly sure,' wash the skinned fruit in clear water; after which, press out the juice free from the rind of the fruit; strain the juice so as to remove all the seeds or pips from it; then add it to the pineapple mixture. It must be then very well frozen. This sherbet, being very rich, will not freeze hard, but will be a semi-ice. Just before the punch is to be served, add and work into it, for every quart of the ice, one gill of old Jamaica; and for every two quarts, one pint of the best champagne. Never use the wine from damaged bottles or leaky corks, as it will be sure to deprave, and perhaps entirely spoil, your punch. After you have well-incorporated these liquors, add a cream or meringue mixture." Some of the gourmets of our time have altered this old formula by making the sherbet in the following manner: "Choose three dozen lemons, with very smooth, though not too thin, skins; peel them into a large china pan, being very careful that there be none of the white on the yellow rind; then add two pounds of broken lump-sugar, and stir all together with a wooden spoon for half an hour to extract the essential oil. Next pour boiling water in the basin, and stir till all the sugar is dissolved. Cut and squeeze the lemons, strain the juice, put the pips into a separate pan, and pour boiling water on them. Next throw into the sherbet one-half the lemon-juice, and, as soon as the pips are free from the transparent coating, strain off the liquor, and add it to the mixture. Taste it, and add more sugar or lemon as may be required. For every half-dozen lemons used, beat up the whites of three eggs to a stiff snow, and pour upon them half a pound of simple syrup that has been boiled to the thickness of molasses and cooled; mix well together, and add and work it into the frozen sherbet. Just before serving, add, for every six lemons used, half a pint of old rum, half a pint of brandy, a wineglassful of maraschino, and a pint of the best champagne. Stir these all well up together, and freeze again for a short time.

PUNCH A LA CARDINAL.

The Cardinals' punch used to differ from the Pope's, and was made of the rind of green bitter oranges, cut very thin, which was allowed to dry for a few hours in the air, then roasted to a golden brown color, after which it was put into a bottle and covered with deodorized alcohol corked up tightly, and set in the sun for a week. This infusion was put into the sherbet prepared in the same way as for Roman punch, except that the rum was left out and champagne only used, and sufficient of the bitter orange infusion, which should be the principal flavor. This ice should be tinted a fine red color with a little carmine.

THE DEADLY BATH.

HINTS TO SWIMMERS, SKILLFUL AND OTHERWISE.

A writer in one of our contemporaries, in summing up the causes for so many bathing accidents, concludes that most of them are mainly or entirely personal, and so far preventable. Chief among these, we need hardly say, is cramp. To a large extent this is practically identical with fatigue, for it is not the fresh and vigorous muscle which most readily passes into spasm. It is that which is wearied with over-action, in which effete products are in excess, nutrition consequently impaired, all molecular changes languid; where, finally, the movement of contraction, once initiated, gives way but slowly, and tends to linger and becomes tetanic. The numbing influence of cold is another well-known obstacle to muscular activity, and for this reason it is not, as a rule, advisable, to remain more than a few minutes in the water. Malnutrition of muscles is a factor which ought not to be forgotten. It supplies a reason why bathing very soon after a meal is not advisable, much of the blood required for muscular exertion being then diverted to the digestive organs. So likewise must it impose a check upon the rashness of those, adult and youth alike, who after a period of town life, with little physical exercise, find themselves at the coast, and insist on trying whether with jaded energies they cannot safely accomplish feats of swimming. Yet one more caution. This is that every bather should know the state of the tide, the currents and the ground. Unless he is thus careful, he may find himself at any time confronted by unexpected dangers, the end of which it is impossible to foresee. It may seem ridiculous to urge that only those who really can swim should bathe in deep water, yet neglect of even this precaution is by no means uncommon.

HUMIDITY AND SUNSTROKE.

SOME CURIOUS FACTS REGARDING THEIR RELATION.

Persons who think that the excessive humidity of recent summers is a new departure will discover their mistake on looking at the New York *Medical Journal* for the year 1853. In that year Mr. Lorin Blodget, in charge of the Meteorological Department of the Smithsonian Institution, in a report to the Secretary, says: "The summer of 1853 has been extraordinary in its climatic conditions, and the extremes of temperature and humidity were much more strikingly and clearly defined than usual." The report then proceeds to give an account of the weather for the summer, in which phenomena are described precisely like those with which we have been familiar for the past two or three years. Among them is the increased number of cases of sunstroke. It is by no means clear that there is a necessary connection between a humid atmosphere and sunstroke. Dr. Hunt, of Buffalo, in reviewing the cases of sunstroke which occurred in the humid summer of 1853, said: "The conclusion is irresistible that not dry heat, but a long-continued bath of aqueous vapour was the true cause of this unparalleled mortality." Another authority informs us that in India the chief cause of

sunstroke is "prolonged atmospheric heat, with a dry and rarified state of the air." It has been proved, however, that highly-rarified air is not conducive to sunstroke. There is no proof therefore that either humidity or dryness or rarification is the cause of sunstroke. It would seem, however, that there are facts to show that when the air is charged with moisture the liability to sunstroke is increased. The relation between humidity and sunstroke is due to the fact that people who perspire freely are not likely to be overcome with the malady, and humidity is undoubtedly unfriendly to perspiration. The extent to which the custom of wearing flannel has spread during the present summer shows that people are awake to the importance of dressing to suit the conditions of our climate. Flannel no doubt absorbs and encourages perspiration, but perhaps not enough has been said of the advantage of light-colored materials both for shirts and for outer wear. A surgeon of the British army has given his experience on this point. Being encamped on the shores of the Bosphorus, the surgeon, with some officers, thought it would be well to imitate the example of Leander and try a plunge in those famous waters. In walking to the shore they took off their coats, carrying them on their arms. The surgeon says:

"I wore a cherry-colored flannel shirt, and although all our shoulders were more or less burned by exposure while in the water, I was literally scorched, and for some days suffered greatly from the slightest movement or friction of my coat. We all suffered in exact proportion to the depth of shade of our flannel."

The same principle, if indeed it be a principle, would apply to hats. It should be observed, however, that there is a minority opinion on this point. A well-known officer of the United States army was strongly of the belief, as the result of his military experience, that black hats were cooler than white ones. When Police Commissioner a few years ago this officer caused the adoption of black hats for summer wear by the police. The question of the comparative coolness of garments of different colors may, no doubt, be left to the experience of the individual wearer.

COAL.

SOME SPECULATION AS TO THE WORLD'S CONSUMPTION.

Some statistics on the coal consumption of the world may not be without interest. In 1888 there were about 800,000 steam boilers at work, producing steam for about an equal number of engines, of much over nine million horse-power. At present, therefore, there may well be about ten million at work; of this number the half, or perhaps less, are stationary engines, working at most from ten to twelve to sixteen hours daily, and the remainder are on board steamers working irregularly. On an average six million horse-power per hour may be obtained from the consumption of coal; the coal required per horse-power on an average is four pounds per hour—more for the small boilers, less for the large ones—consequently, the coal consumption for the generation of steam may be estimated at 240,000 centners (a centner is one cwt.) per hour. The requirements of fuel for the gas engines of the world may be estimated at 70,000 ctrs. per hour. We have no information on the consumption of gas for heating purposes. In the United States it is of such importance that 20,000 ctrs. may be put down as the total consumption. For the extraction of metals about 180,000 ctrs. per hour is necessary. The consumption for industrial purposes is estimated at 100,000 ctrs. The requirements for domestic purposes will be covered by 200,000 ctrs. Thus a total consumption of 1,100,000 ctrs. is arrived at; that is to say that over a million centners is consumed hourly, or 25,000,000 centners daily. The coal production of the world may be estimated at 11 or 12 milliard centners annually, which makes 30 to 33 million centners daily, and $1\frac{1}{4}$ to $1\frac{1}{2}$ million centners hourly.

CORRESPONDENCE.

A FASHIONABLE LONDON WEDDING.

LONDON, August 24, 1889.

Editors AMERICAN ANALYST: Here we are on the verge of sporting land, and yet it seems this season's gaieties are barely over. Yachting festivities are now the order of the day, and then comes St. Partridge's reign, when all London will be popping away still, or else sniffing the briny, and the metropolis will be as quiet as any of the quietest nooks in England, leaving no remembrance of the tear, glare, and distraction of this very brilliant and long-lived season. Weddings have been in the majority, and to describe one of these functions will be the pleasant subject of my theme this month. The house at which this very pretty wedding took place was quite a floral exhibition; palms and ferns were arranged in groups everywhere—hall, staircases, landings; blocks of ice, with wreaths of fern, were placed everywhere, for it was one of the most torrid days of the season. On one landing was a block of ice standing close to a fountain, in which were floating water-lilies. Perhaps fountain will not be the right expression; it was a miniature waterfall below which was a miniature lake, in which water-lilies floated and a large white china swan seemed to be swimming. Along the banisters at close intervals, were large bouquets of white roses, white pinks, and other white flowers, tied with large bows, and ends of white watered silk ribbons. The reception-room doors were arched with white flowers and ferns. Garlands of the same were festooned round the walls; in the fire-places were blocks of ice surrounded with small palms and white geraniums. The mantel-pieces were canopies of white flowers, gardenias and stephanotis being most prominent among them. In the centre of the room was a huge bell, entirely composed of the same flowers, white roses, and maidenhair ferns. The clapper was in the shape of a small white plush dove, holding in its beak a spray of orange-blossoms. In the dining-room there was a long buffet at one end of the room and small tables dotted about. Over the sideboard was a banner of white Liberty silk, on which was written in rosebuds the names of the contracting parties and the date, with just the words, "Till death do us part." The buffet, which was a long dining-table, had, of course, the wedding-cake in the centre; it was of three tiers, and covered with centrifugal sugar over the icing, and decorated with natural flowers; there were also some wonderful emblematic figures, which space will not allow me to describe here. The floral decorations were of both kinds, flat and raised. The flat floral decorations represented Cupid's bows and arrows made with small white roses and feathery grasses. Silver baskets in the shape of the wooden baskets carried by children at the seaside, held white iris, white roses, gloxinias, sprays of myrtle, and orange-blossoms. The smaller tables had sprays of white rose garlands of the Louis XIV. period laid on them, and over the dining-room door was a gigantic floral horse-shoe made of white flowers and maidenhair fern; but I cannot dwell too long on this bridal entertainment, but must bid me on to name a few dinner-tables which were considered very *chick*. At one of the houses the table was a very large round one, in the centre were pale mauve, white, and yellow iris, with long grasses, deep-red leaves and maidenhair; an immense bed in the centre composed entirely of these flowers, which, at first sight, looked like the loveliest orchids. At another house in Belgrave square, there were long narrow banks of pale yellow iris with white gladioli intermixed with fern and grasses; silver bowls filled with the same flowers down the centre. At a house in Dover street, the dinner-table was decorated with a centrepiece of moss, which was invisible, in which fairy lights twinkled between the blooms of white and yellow roses. The last new shapes for lamp shades are the academical caps,

which should be of the same tone as the flowers. Floral lamp-shades are also very much in favor, made of lace and lined with silk, tiger lilies and poppies being the reigning favorites. W.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

September.

MEATS.—Beef, lamb, mutton, ham, kidneys, liver, sausage, veal, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Anchovy, bass, bluefish, blackfish, cod, eels, crabs, clams, flounder, halibut, herring, lobster, mackerel, mussels, porgie, prawn, salmon, turtle, trout, sturgeon, whiting, weak-fish, rockfish.

VEGETABLES.—Beans, beets, cucumbers, cabbage, carrots, cauliflower, corn, egg-plant, lettuce, onions, parsley, parsnips, potatoes, squash, shallots, spinach, turnips, radish, rhubarb, tomatoes.

FRUITS.—Cherries, raspberries, huckleberries, melons, gooseberries, blackberries, peaches, pears, tamarinds, bananas, pineapple, grapes, plums.

PRACTICAL RECIPES.

BAKED OYSTERS.—Grate a small loaf of stale bread. Butter a deep dish well and cover the sides and bottom with bread crumbs. Put in half the quantity you intend using of oysters, with a little mace and pepper. Cover them with bread crumbs and butter. Then put in the remainder of the oysters. Season them and bake for a short time.

INDIAN PUDDING.—In one quart of nearly hot milk stir five tablespoonfuls of corn meal, one-half cupful molasses, one-half cupful sugar, three eggs, and piece of butter the size of an egg. Bake one and one-half hours.

BOILED FRUIT PUDDING.—One pint sweet milk, two eggs; make a thick batter and add fruit of any kind. Boil one hour.

SPONGE CAKE.—Three eggs and white of one more, three-quarter pounds sugar, one-half pound of flour, one teaspoonful cream tartar, one-half teaspoonful soda, rind and juice of one lemon.

FRENCH ROLLS.—At night take two quarts flour, rub in two tablespoonfuls lard, and make a hole in the middle and put in one pint cold boiled milk, three tablespoonfuls sugar, one tablespoonful salt, one yeast cake. Let this rise till morning without mixing; then mix and let stand till light, then roll out and cut round, spread with a little butter, fold over, raise and bake.

GREEN CORN FRITTERS.—Sift together a pint of flour, a heaping teaspoonful of Horsford's Baking Powder, half a teaspoonful of salt and a dash of white pepper. Cut through the centre of each row of kernels, and press out the inner part of them with the back of a knife; add three half pints of the corn pulp to the flour and four eggs well beaten; mix, and if the corn is not juicy enough to make the batter, add a little milk; drop spoonfuls of it in smoking hot fat, brown them nicely, and serve plain or with the sauce recommended for tomato fritters.

HICKORY NUT COOKIES.—Two cupfuls sugar, one-half cupful melted butter, six tablespoonfuls milk, one and a-half teaspoonfuls Horsford's Baking Powder, two eggs, one cupful chopped hickory-nut kernels stirred into the dough.

WAXED BAGS.—Waxed paper bags are a new idea for holding coffee, fruit, confections, etc. They are also useful for packing furs and woollens away from moths, the paraffine coating rendering them both air and watertight.

ANCIENT PRODUCTS.—Pliny mentions a variety of asparagus that grew in the gardens at Ravenna, three heads of which weighed a pound. Truly, there is nothing new in the way of asparagus, as far as size is concerned.

QUEER FACTS.—It is queer, though it is a fact, that Ohio has 40,373 white voters unable to write; Pennsylvania, 65,985; New York, 76,745. The men who can't read their ballots hold the balance of political power in these important States.

DEAF ANIMALS.—Evidence exists that deaf mutes are not confined to the human race. In a farmer's herd for twelve years was a cow which never gave any sign of hearing, and the evident attempts of which at lowing had only resulted in a feeble guttural. Nothing abnormal could be discovered in the ears or the vocal organs.

GERMANIZING GERMAN.—The Germanization of the language of Germany is continued. A patriotic tobaccoist at Dusseldorf, wishing to banish the word *cigarre* from the German dictionary at any cost, has offered prizes for substitutes that shall be unmistakably Teutonic. Among the first offered were *Glimmstengel* (burning stalk) and *Giftnudel* (poison tubes).

NOT YET EXHAUSTED.—Professor Thurston, of Cornell University, in an article in the *North American Review*, expresses the opinion that the steam engine is still capable of vast improvement; that the next generation will see the American Continent spanned by flying trains in two days, and that ships of 20,000 tons will be propelled at the rate of forty miles an hour.

DOOR TELEGRAPHY.—The London front door wears a great iron breast-plate, or metallic breast-pin, writes Brick Pomeroy, over which hangs a flat sad-iron handle in the name of a knocker. Listen. One solid knock on the door. That means a servant, a tradesman or some one to see a servant. Two knocks, the return of some member of the family. Three regular knocks, a caller. One loud knock, followed by two lighter ones in quick succession, the postman. One loud knock, two light ones and one loud one, a telegraph message, here called a wire. One thundering loud knock, and in about three seconds another one, equally loud and commanding with the first, a policeman, whose call may be to inform you that you have left a lower window open or a front door unlocked.

WALL RESPIRATION.—Prof. B. C. Kedsie, in his lecture when president of the State Board of Health some years ago, advised his audience to forego the pleasure of decorated walls, or to simply whitewash them with lime, rather than stop what he terms "wall respiration" by sealing or strangling the pores in the plaster with paste and paper, kalsomine or paint. He illustrated to his audience, by means of blowpipes filled with dry mortar and some coated with paper, others with paint and kalsomine, how readily air passes through walls of ordinary mortar and with stucco finish, and when simply whitewashed, and how this wall respiration was prevented by all the other modes. That air passes through walls is proven by the dust marks seen on plastered walls, or those that have been only whitewashed and alabastined, indicating the spaces between the lathing caused by the dust being filtered from the air more between the laths than on them.

EVOLUTION OF THE STREET RAILWAY.—The first ancestor of the street railway was the tramway, which was first introduced in the coal mining districts of the North of England between the years 1602 and 1649. It consisted of parallel lines of wooden trams or beams pinned down to the ground, with flanges on them, and not on the wheels, as now. Coal wagons were drawn to and fro along these flanged trams from the coal pits to the shipping ports. The first use of iron on these tramways was in 1767, when cast-iron plates were nailed down on timbers to protect them where they wore out the fastest. The width of the tramway was about four feet eight and a half inches. Horse railroads of a crude type were in use in England in 1805, but it was not until 1832 that the first street car line for passengers was built on Fourth avenue, New York. It was not, however until 1852 that a second line was built, after which the system spread rapidly throughout the United States.

SMOKELESS POWDER.—In the sham fight at Spandau with smokeless powder, no smoke was to be seen at the distance of 300 yards. No sound was heard except a slight noise as of tapping. There was something suggestive in the sight of troops pouring forth a deadly fire without making any noise or appearing to be doing anything. It suggested murder. The roar of cannon and the hissing of small shot has occupied the minds of soldiers in past wars and diverted their attention from the horrors of their position under fire, but the soldier of the future is to fall without warning, as if smitten by pestilence. As Lord Salisbury said in his recent Mansion House speech, war is fast becoming too dreadfully destructive for responsible statesmen to get their own consent to begin it. The alternative, though his lordship did not suggest it, is to go back to nature's weapon's—the fists. A better thing, perhaps, if practicable, would be for nations and individuals to concentrate their minds upon efforts to be perfectly just to each other, kind and sympathetic.

ELECTRIC MOTOR.—The improved electric motor which has been brought forward by a Cincinnati inventor, and for which various advantages have been claimed over all others, has been subjected to repeated exhibitory tests, and it would appear has given very satisfactory evidence of its value. This motor, according to all accounts, possesses a method of speed regulation which fulfills in a remarkable degree the great desideratum of simplicity as well as other desirable qualities. The arrangement consists of two peculiarly constructed coils of wire suitably placed in connection with a centrifugal governor, driven from the armature shaft by means of a rubber belt designed especially for the purpose, and the mechanism is such that, should the governor belt break or fly off, the arms will collapse and close, and the motor be immediately stopped.

INGERSOLL'S EXPLANATION.—Here is the way Ingersoll puts it: "Here is a shoe shop. One man in the shop is always busy through the day—always industrious. In the evening he goes courting some nice girl. There are five other men in the shop that don't do any such thing. They spend half their working evenings in dissipation. The first young man by and by cuts out these others and gets a boot and shoe store of his own. Then he marries the girl. Soon he is able to take his wife out riding of an evening. The five laborers, his former companions, who see him indulging in this luxury, retire to the neighboring saloon and pass resolutions that there is an eternal struggle between labor and capital."

BUSINESS NOTES.

AMERICA AT THE PARIS EXHIBITION.

There is no other exhibit of the class in the United States section to rival that of Wm. R. Warner & Co. From the globe-advertising Philadelphia merchant comes an exhibit which the native pharmaciens can look at with both admiration and wonderment. The display is enough to make any Frenchman curious, and their arrangement such as to be above deprecatory criticism; and those Frenchmen there could not be a people with better taste for the proper and harmonious exhibition of products. A glance through their own magnificent section of pharmacy will verify this. Readers would find superfluous a description in detail of the Messrs. Warner's essentially fine installation covering

all their soluble sugar-coated pills, salts, &c. Suffice it to remark that at the Paris Universelle their exhibit is thoroughly representative, comprises all the makers' fabrications, and is decidedly an honor to the concern. —*Pharmaceutical Record.*

HORSFORD'S ACID PHOSPHATES FOR SEASICKNESS.

Dr. W. W. Blackman, Brooklyn, N. Y., says: "I am very much pleased with it in seasickness. Several cases have been brought to my attention where it afforded prompt and entire relief."

MATCHES AND PENS.

Lucifer matches when first invented in 1827 were sold fifty for twenty-five cents. Now whole forests are made into matches, and the price of a gross, like that of Esterbrook's Steel Pens, is next to nominal.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME OF
ON LABEL, AND GET THE GENUINE
HARTSHORN



PUBLISHED EVERY SATURDAY.

In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer and Decorator.

Subscription, \$6.00 a Year in Advance.

SAMPLE FREE.

THE BEST ADVERTISING MEDIUM OF ITS CLASS PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.

Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY, 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
23 Warren St., New York.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. H. & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alays the thirst, aids digestion, and relieves lassitude.

"Dr. T. C. Smith, Charlotte, N. C., says:

"An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop."

Dr. J. S. Niles, Pownal, Vt., says:

"Excellent as a tonic, and refreshing as a substitute for lemonade."

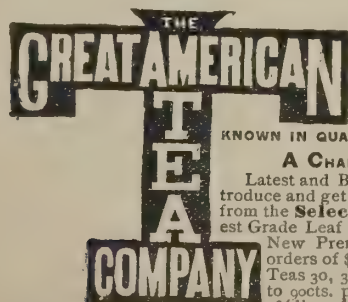
DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are Picked from the Select Tea Gardens of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a Trial Order of 3 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a Trial Order to the Old Reliable and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N. Y. P. O. Box 287.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.

Robinson's Sura Cura
SURE CURE
FOR
RHEUMATISM
And **NEURALGIA**,
And remedy for diseases arising from an impure
state of the blood. An antidote for **MALARIA**.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Will be found invaluable for
Cholera Infantum
and all Summer Complaints,
children or adults. *It is not a
medicine but will be retained
& sustain life when everything
else fails.* 4 sizes 35 cts. up.



FACIAL BLEMISHES
The largest Establishment in the World for
the treatment of Hair and Scalp, Eczema,
Moles, Warts, Superfluous Hair, Birthmarks,
Moth, Freckles, Wrinkles, Red Nose, Red
Veins, Oily Skin, Acne, Pimples, Blackheads,
Barber's Itch, Scars, Pittings, Powder Marks,
Bleaching, Facial Development, etc. Send
10 cts. for 128-page book on all skin im-
perfections and their treatment.

JOHN H. WOODBURY, Dermatolo-
gist, 125 West 42d Street, NEW YORK CITY, N. Y.
P. S.—Use Woodbury's Facial Soap for the skin and
scalp; for sale at all druggists, or by mail, 50 cents.

Crayon Portraits.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



**SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.**

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill
Vineyard Company and have found them excellent. The Sauterne is
superb—much better than most of the imported that costs five times
as much. The same is true of the Claret and the Riesling. The time
is soon coming when Americans will know enough to appreciate the
wines of their own country. Most people judge of wines, not by what
is in, but by what is on the bottle. They taste the label, and then they
are not positive that they like it until they know the cost. If you
could only manage to have the Edge Hill Wines imported, they would
taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

THE AMERICAN ANALYST.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly inter-
esting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most
famous names in literature, both American and European. Each of the ten novels is extremely interesting,
though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and
exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book,
profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the
book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new
subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera
Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands,
and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it.
Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results
when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine
in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive
value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is
prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree
with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

A CHARMING BOOK, INVALUABLE TO EVERY LADY.

ARTISTIC EMBROIDERY.

By ELLA RODMAN CHURCH.



Such a multiplicity of books upon the subject of Fancy Work are now offered for sale, it is often difficult for ladies to discriminate between the good and the bad. In the case of this work, however, the name of the author, Ella Rodman Church, should be a sufficient guarantee of its excellence, for a lady so well and favorably known could hardly afford to lend her name to anything not strictly first-class. This book is a complete text-book—a thorough instructor in every branch of Artistic Embroidery. With it as a guide all may become proficient in this beautiful and fascinating art, and those who are already skilled therein will find the many useful suggestions and the numerous beautiful new designs shown of the utmost value to them. The following is a partial summary of the contents: WORSTED EMBROIDERY—Crewel Work; the Crewel Stitch; Articles to be Worked in Crewels; an Embroidered Frieze; a Dado in Crewels; a Worsted Work Portiere; Curtains with Sprays of Sumac; a Sweet-Pea Table Cover; Screens in Crewel Work; Carriage Wraps; SIMPLE IDEAS OF COLORS; SILK EMBROIDERY; the French Knot; Stalk Stitch; Point Russe; Herring Bone or Feather Stitch; Chain Stitch; Ladder Stitch; DESIGNS; ARTICLES IN SILK EMBROIDERY—A Screen of Peacock Feathers; Banner Screen; Embroidered Table Top; Window-Curtain Border; Embroidered Dresses; Panels; Small Curtains or Hangings; an Embroidered Room; a Fan Table Cover; a Chair Cover; Fire Screens; a Child's Afghan; PRINT WORK; SILK EMBROIDERY WITH GOLD—Materials Used; Gold Cord; Gold Braid; Bullion; Spangles; Gold Thread; EMBROIDERED BOOKS AND OTHER ARTICLES; APPLIED WORK WITH EMBROIDERY—A Lambrequin in Applique; Silk Applique Work; Cretonne Work; Grape Pictures in Applique; Linen Applique; EMBROIDERY IN CREWEL; SILK EMBROIDERY ON LINEN—Embroidered Fruit Doilies; HOLBEN WORK; CHURCH EMBROIDERY; LINEN LACE WORK—Point Conté; Rosettes, Insertions, etc.; Point Coupe; Point Tire; Imitation of Antique Lace. ARTISTIC EMBROIDERY is a large 12 mo. book of 128 pages, handsomely bound in paper covers, and profusely and elegantly illustrated. It will be sent by mail post-paid upon receipt of only **Twenty-Five Cents**, and is guaranteed to be the best book of the kind ever offered at this low price.

ALL ABOUT HORSES, CATTLE, SHEEP AND HOGS.

The American Live Stock Manual.



No subject is of greater importance to the farmer than that of Live Stock, and few there are who have not much to learn regarding it. Many a man has lost a valuable animal for no other reason than that he did not know how to take care of it when well or to treat it when sick. THE AMERICAN LIVE STOCK MANUAL is a book the cost of which is but trifling, but it is simply worth its weight in gold to every man in America who owns a horse, a cow, a sheep or a hog, for it is a complete text-book, containing the fullest information regarding the care and management, feeding and rearing, of live stock, likewise directions for the cure of all diseases peculiar to these animals and of all unruly and vicious habits, for the construction of necessary buildings and conveniences, etc., etc. The following are only a small portion of the topics treated in this book: How to Judge a Horse; Feeding Horses; Raising a Colt; To Bit a Colt; To Break Horses from Pulling at the Halter; Warts on Horses; Stumbling Horses; Cure for Balking Horses; Kicking Horses; Training Vicious Horses; Galls and Sores on Horses; Reining Horses; Colic; Botas; Founder; Heaves; Epizootic; Shyness; Scratches; Ringbone; Spavin; Cribbing; Bruises and Blisters; Hide-Bound Horses; Avoiding Indigestion; To Take Off a Hide; Assistance at Birth; Hollow Horn; Obstructed Teats; Black Leg; Oaked Udder; Jumping Cattle; Garget; Care and Management of Hogs; Piggeries; Troughs; Pig Raising; Over-Feeding; Sanitary Management of Swine; Hog Cholera; Paralysis; Scurvy Pigs; Preparing Food for Swine; Butchering; Fattening Hogs; Driving Hogs; To Prevent Hogs Becoming Diseased; Raising Sheep; Washing Sheep; Sheep Rot; Hurdling Sheep; To Tell the Age of Sheep; Sheep Ticks; Early Lambs; How to Make Sheep Pay; Spring Feeding of Ewes; Treatment of Lambs; Increasing the Growth of Wool. THE AMERICAN LIVE STOCK MANUAL is a large book of 320 pages, 12 mo. size, with 1000 illustrations, and is profusely illustrated. It will be sent to any address by mail post-paid upon receipt of only **Twenty-Five Cents**. Send for it! The price is but a trifle compared to its real value to every farmer.

Four Books in One! No Household is Complete Without It!

THE COMPLETE BOOK OF HOME AMUSEMENTS.



What most lives need is more sunshine. Let us banish care, have a good time, enjoy ourselves while we may. How much happier—how much better off—are those homes wherein the father and mother, and even the gray-haired grandparents, join with the children after tea in a merry game or other amusement, than those wherein reticence and reserve and chilly demeanor prevail. "But," you say, "what shall we do? We read until we are tired; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful book it is. It contains 64 large 8-column quarto pages, neatly bound in handsome covers, and is filled to the brim with every conceivable thing for the enlivenment of home. It is in reality four books in one, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It is a complete text-book for Public and Private Entertainment, Private Theatricals, Parlor Exhibitions, Social Gatherings, School Exhibitions and Evenings at Home. It is a book for old and young, grave and gay—a veritable storehouse of good things for all. It contains a number of ACTING CHARADES, with full directions how to perform them. It gives some very excellent PARLOR DRAMAS, easily acted yet very amusing. It tells all about SHADOW PANTOMIMES, and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful TABLEAU VIVANTS, and gives full and explicit directions for performing them. In it are so many amusing PARLOR GAMES that we have not attempted to count them, but we think we have almost everything, new and old, that was ever thought of in the game line. Then we come to a lot of wonderful ILLUSTRATED PUZZLES—tantalizing, perplexing, apparently intricate, but so easy when you turn to the proper place and learn the answers. Here also is a savory dish of RIDDLES, ENIGMAS, CHARADES, ETC.—a nice large lot of them. How young and old heads will puzzle and study over them, and how proud you will feel when you have solved one correctly. As to CONUNDRUMS, there are nearly a bushel of them, some so funny you will want to hold your sides with laughter, and what fun it will be for one of the company to read the questions and see who can guess the answers! A considerable portion of the book is allotted to PARLOR MAGIC, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are a lot of amusing and instructive CHEMICAL EXPERIMENTS, showing how the combination and manipulation of the simplest agents will produce the most surprising results. Following these are a number of excellent DIALOGUES, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest RECITATIONS, dramatic, pathetic, sentimental, and comic, ever written. It is handsomely illustrated, and is indeed a splendid book. THE COMPLETE BOOK OF HOME AMUSEMENTS will be sent by mail, post paid, to any address, upon receipt of only **Twenty-Five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF

THE ABOVE BOOKS

FREE.

TO any one who will send us **One New Subscriber** to the AMERICAN ANALYST for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the AMERICAN ANALYST. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

UNEQUALLEDAsk your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.**DELICIOUS**

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand),** in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.**SWIFT'S**

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,**UNION STOCK YARDS,****CHICAGO, ILLS.****A BUSINESS BENEFIT.****ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.**

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.	Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00	\$3 25
American Rural Home.....	75	1 05
American Agriculturist.....	1 50	1 60
Art Amateur.....	3 50	4 00
Arthur's Home Magazine.....	2 00	2 00
Art Interchange.....	3 00	3 25
Babyhood.....	1 50	1 60
Ballou's Magazine.....	1 50	1 75
Bedford's Magazine.....	2 50	3 00
Cassell's Family Magazine.....	1 50	1 75
Century.....	4 00	4 25
Christian Herald, N. Y.....	1 50	1 50
Christian Union.....	3 00	3 00
Cottage Hearth.....	1 50	1 50
Country Gentleman.....	2 50	2 50
Current Literature.....	2 50	2 75
Demorest's Magazine.....	2 00	2 00
Family Story Paper.....	3 00	3 00
Farm and Fireside.....	50	1 00
Fireside Companion.....	3 00	3 00
Forum.....	5 00	5 00
Frank Leslie's Illustrated Newspaper.....	4 00	4 00
Frank Leslie's Popular Monthly.....	3 00	3 00
Galaxy of Music.....	1 00	1 25
Gleason's Home Circle.....	2 00	1 50
Godey's Lady's Book.....	2 00	2 25
Golden Days.....	\$3 00	\$3 00
Good Housekeeping.....	2 50	3 00
Harper's Bazar.....	4 00	4 00
Harper's Young People.....	2 00	2 25
Harper's Weekly.....	4 00	4 00
Harper's Monthly.....	4 00	3 50
Household.....	1 10	1 25
Housekeeper.....	1 00	1 25
Ledger.....	3 00	3 00
Lippincott's Magazine.....	3 00	2 50
New York Weekly.....	3 00	3 00
Our Little Ones and Nursery.....	1 50	1 65
Peck's Sun.....	2 00	2 25
Peterson's Magazine.....	2 00	2 00
Puck.....	5 00	4 50
Rural New Yorker.....	2 00	2 30
Saturday Night, Philadelphia.....	3 00	3 00
Saturday Evening Post, Philadelphia.....	2 00	2 00
Scientific American.....	3 00	3 25
Scribner's Magazine.....	3 00	3 00
Vick's Illustrated Monthly.....	1 25	1 50
Western Rural.....	1 50	2 00
Wide Awake.....	2 40	2 60
Yankee Blade.....	2 00	1 50
Young Ladies' Journal.....	4 00	3 50
Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

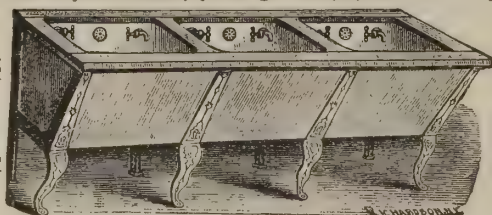
19 Park Place, New York.

STEWART CERAMIC CO.,**312 PEARL ST., Cor. Peck Slip, NEW YORK.**

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.**VERY STRONG.**

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Wash tub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose purious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM.

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition:	ALBUMINOIDS.....	19 Parts.
	MILK SUGAR.....	64 "
	FAT.....	10 "
	MINERAL MATTER.....	3 "
	CHLORIDE of SODIUM added.....	1/2 "
	PHOSPHATES of LIME added.....	1/2 "
	MOISTURE.....	3 "

SEND FOR SAMPLE and compare it with every other food used in artificial feeding of Infants.

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. A SEDATIVE, NERVE AND BRAIN FOOD.

(GRANULAR EFFERVESCENT.)

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

PHYSICIANS' Club Rates on Valuable Journals.

The American Analyst.

Weekly. \$1.00 per year.

The American Medical Digest.

A current record of the Monthly Progress of Medical Science. \$2.00 per year.

We will send these two together to any address for \$2.00 per year.

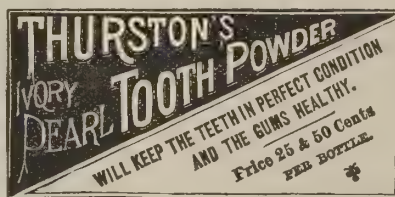
We also receive Subscriptions for the following Medical Journals. In each case the publishers' price is given and the price for which we will send that particular Journal with the ANALYST and the DIGEST:

	PUBLISH- ER'S PRICE.	DIGEST AND ANALYST. PRICE.
Albany Medical Annals.....	\$1 00	\$2 75
Ann Arbor Med. Counsel'r (Hom.).....	2 00	3 75
Ann Arbor Phys'n and Surgeon.....	2 00	3 75
Atlanta Med. and Surg. Journal.....	2 50	4 00
(Only new subscribers taken.)		
Austin (Tex.), Daniel's Med. Journal.....	2 00	3 75
Boston Annals of Gynecology.....	2 00	3 50
Boston Journal of Health.....	1 00	2 75
Boston Med. and Surg. Journal.....	5 00	6 00
(Outside of New England only.)		
Chicago, Jour. of Am. Med. Association..	5 00	6 00
Chicago Medical Jour. and Ex.....	3 00	4 50
Chicago Medical Times.....	2 00	3 75
Chicago, Western Med. Reporter.....	1 00	3 00
Cincinnati Med. and Dental Journal.....	1 00	3 00
Dallas (Tex.), Courier Rec. of Med.....	2 00	3 75
Detroit, American Lancet, Mo.....	2 00	3 75
Detroit, Index Medicus.....	10 00	10 00
(A Monthly Classified Record of Med'l Liter.)		
Detroit, Leonard's Ill. Med. Monthly.....	50	2 35
Detroit, Medical Age (Semi-Monthly).....	1 00	2 75
Gilsum (N. H.), Quarterly Review of Nar- cotic Inebriety.....	1 00	2 75
Indianapolis (Ind.), Ecl. Med. Journal....	1 00	2 75
Indianapolis Medical Journal.....	1 00	2 75
(Outside of Indiana only.)		

Kansas City, Western Med. Jour.....	2 00	3 75
Louisville, Medical Investigator.....	50	2 35
Nashville, Jour. of Med. and Surg.....	2 00	3 75
New Orleans, Med. and Surg. Journal....	3 00	4 75
New York, Sanitary Era.....	1 00	2 75
New York Medizinische Presse.....	2 50	3 75
(The only German Medical Journal in U. S.)		
Philadelphia Hahnemannian (Monthly)...	3 00	4 25
(New Subscribers only.)		
Phila. Med. and Surg. Reporter.....	5 00	6 50
Philadelphia Medical Summary.....	1 00	2 85
Philadelphia Medical Register.....	2 00	4 00
Phila. Archives of Pediatrics.....	3 00	4 50
(The only Journal devoted to Infants' Diseases.)		
Philadelphia Medical World.....	1 00	2 85
Philadelphia Medical Times.....	2 00	3 75
Sacramento Medical Times.....	2 50	4 00
San Francisco Pacific Med. and Surgical Journal.....	3 00	4 50
St. Louis Medical Brief.....	1 00	2 90
St. Louis American Med. Journal.....	2 00	3 25
St. Louis Med. and Surg. Journal.....	2 00	3 25
Toronto, Canadian Practitioner.....	3 00	4 50

More Journals will be added to this List. Attention is called to the Special Journals in this List, such as the
Boston Annals of Gynecology, Detroit Index Medicus, New York Medizinische Presse, Phila. Archives of Pediatrics.
Address,

The ANALYST PUBLISHING CO.
19 PARK PLACE,
NEW YORK.



THE

VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Loading Numbers: 14,048,128, 130, 135, 333, 161.

— For sale by all stationers. —

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

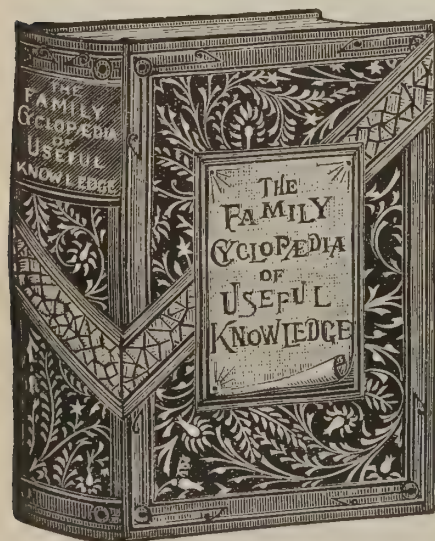


is the most reliable substitute known for mother's milk. Its superiority rests on the test of 92 years use in Great Britain and the U. S. A. sustaining, strengthening diet for Invalids; nutritious, easily digested, and acceptable to the most delicate stomach. Four sizes, 50c. up. Pamphlet, "Healthful Hints," sent free. WOOLRICH & CO., Palmer, Mass.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPEDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

— 19 PARK PLACE, NEW YORK. —

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodrum*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

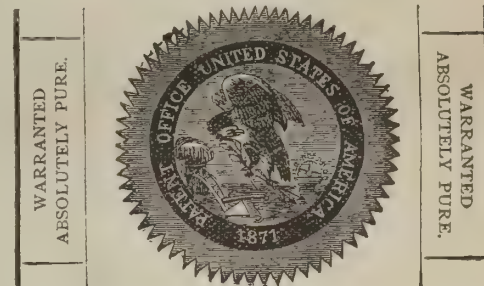
PARK & TILFORD, and ACKER, MERRALL & CONDIT.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

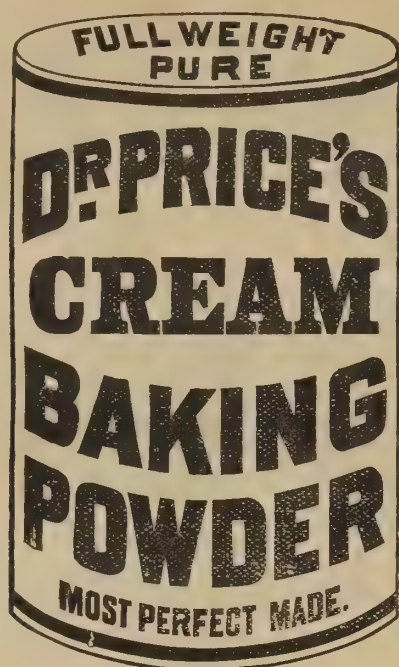
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

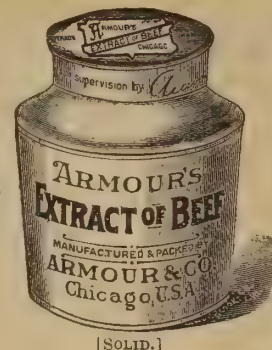
ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.



SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M.D., F.R.S., and an endorsement by SIR ERASMUS WILSON, F.R.S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,
115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.



The Most Reliable Food
For Infants & Invalids.
Not a medicine, but a specially
prepared Food, adapted to the
weakest stomach. 4 sizes cans.
Pamphlet free. Woolrich & Co.
(on every label). Palmer, Mass.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY-STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.

The Standard of Excellence.

KINGSFORD'S
OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S
OSWEGO CORN STARCH
FOR
Puddings, Custards, Blanc-Mange, Etc.
THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 37.

NEW YORK, THURSDAY, SEPTEMBER 12, 1889.

WHOLE No. 133.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Domestic Dietetics.....	436
Editorials.....	433
A Chautauqua Dispute; California Raisins; Mr. Spreckel's Idea; A Balloon Hoax; In a Nut Shell.	
Fruit for Food.....	434
Old New York.....	435
Rudimentary Organs.....	436
Sealskins.....	434

A CHAUTAUQUA DISPUTE.

The summer colony at Chautauqua had a treat a couple of weeks ago rather out of the common order of entertainment at that centre of recreation and pedagogy. It seems that some utterances of Dr. George Gunton, of this city, evincing a friendly feeling for the general idea of trusts, brought down upon the speaker the ire of Dr. Washington Gladden, of Columbus, Ohio, who regards these combinations as veritable devices of the Evil One. Both gentlemen are men of learning and economists of distinction. The general sentiment of the listeners was in favor of Dr. Gladden's position, but the plucky manner in which Mr. Gunton advocated his side of the question against the brusque assaults of his adversary, and in the face of great numerical odds, challenged the approval of a large number of champions of fair play, and gained for Mr. Gunton a more than respectful attention. Accordingly, a joint debate by the two disputants was arranged for to be held in the great amphitheatre on August 26, when a large and interested audience was in attendance. A son of Bishop Vincent presided, and the discussion was in every respect as orderly in its details and as decisive in its outcome as

that famous disputation of old presided over and adjudicated upon by the sapient Pantágruel. Dr. Gladden, as the assailant, opened the discussion, his remarks relating almost exclusively to the Standard Oil Company, which comfortable corporation he denounced as "a concern which has as many aliases as a horse thief." He said that trusts and combinations sometimes accomplished good, but that their aim was to suppress competition, and that they were run by grasping and soulless men. Mr. Gunton had the next inning, and declared that trusts were undoubtedly formed to make money, and that is what all men are after. But the fact stands, he said, that since the formation of the big trusts the prices of their commodities had steadily decreased. Dr. Gladden, resuming, stood by his previous assertions, and urged the establishment of a tribunal in each State to keep the great combinations in check. Mr. Gunton denounced the proposition and the discussion closed, each speaker having been granted fifteen minutes alternately during one hour. The upshot was that the audience came away about as wise as they were in the beginning, both the speakers having fallen far short of the opportunity before them. Dr. Gladden's views undoubtedly are those most in accord with popular sentiment, but Mr. Gunton's declarations of approbation for trusts as money-making instruments without doubt struck a sympathetic chord in the minds of many, who would readily renounce their antagonism to monopolies if they could get a respectable chance to share in their advantages.

CALIFORNIA RAISINS.

The viticulturists of California held their seventh annual convention in San Francisco last month. One day's session was devoted to the raisin industry, in the discussion of which some interesting facts were presented. One speaker expressed the opinion that within five years the annual production of raisins in California would amount to 2,500,000 boxes, of which 800,000 would be London Layers. He thought it would pay to plant raisin grape vines in view of the fact that for the season of 1888-9 the United States imported 2,025,000 twenty-pound boxes of raisins from foreign countries, which would make the total consumption for that season 3,275,000 boxes. The area at present devoted to raisin grapes is 21,000 acres, which ought to produce 2,575,000 boxes. California's competitor in raisin production is Malaga, Spain. Malaga produces a large, thin-skinned, finely-flavored raisin. It is practically the only grape that competes with the local product. During the past seven or eight years the importations from Malaga have fallen off materially, on account of the improvement of the California raisin. Yet it is not true that the noticeable decline in the receipt of raisins from Malaga is entirely due to California competition. Our receipts from Spain began to decline seven years ago, when we were importing 1,800,000 boxes. In 1888 the quantity imported was reduced to 1,000,000 boxes. The total crop of the Malaga district for 1878 was 2,100,000 boxes,

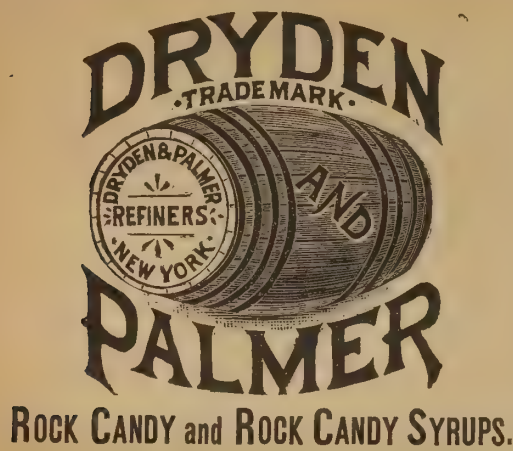
of which the United States received 1,185,000 boxes. In 1879 the crop amounted to 2,125,000 boxes, the United States receiving 1,146,000 boxes. In 1880 the crop was 2,015,000 boxes, and the United States received 1,115,000 boxes. At this point the Malaga crop began to fail. In 1881 but 1,800,000 boxes were produced, of which the United States received 1,000,000 boxes. In 1882 the crop was 1,868,000 boxes, of which the United States received 968,000 boxes. These statistics show that for the five years mentioned 9,188,000 boxes were produced, of which the United States received 5,450,000 boxes, proving that we have been consuming more than one-half of the Malaga crop, while England, which claims to be the principal market, has received during the same period but 925,000 boxes.

MR. SPRECKELS' IDEA.

The possibilities of science are astounding. Mr. Claus Spreckels, the Sugar Magnate, has announced, so Dr. Glavis of Washington says, that he has discovered a process of solidifying beet sugar to the hardness of granite, and that this material can be used for every purpose that the finest white marble is called for. Just think of it. Any enterprising boy with a chisel can then supply himself with all the coveted sweets. We have heard of bad tenants burning the fences, stoops and floors for fuel, here we can contemplate such tenants as chipping off the front wall to sweeten their coffee. Any impecunious young man could invite his best girl to gratify her sweet tooth by licking the neighbor's wall. But why should we harass our imaginations? Surely we can never expect to attain the high standard of Mr. Spreckels, whose vivid imagination of the possibilities of American science and skill has led him to tantalize us with this sweet castle in Spain.

A BALLOON HOAX.

A couple of weeks ago a thrilling story was telegraphed to the daily papers from that fountain-head of American sensationalism, Chicago. It describes the wafting away of a two-year-old girl, by a bunch of toy-balloons, and of the wondrous skill of a sharpshooter who pierced some of the balloons so that by the reduced buoyancy the little one came down and was caught, without even wetting her feet by some expert oarsmen in a boat. That in the rush of nightwork in a newspaper office the story should have been permitted to pass into print without question is no wonder. But it reflects little credit on the sagacity or the honesty of the Associated Press agent at Chicago that the statements should have been sent over the country from his office. The dearth of news and the lull in the World's Fair discussion are hardly sufficient excuses. It is now said that the yarn was originally spun in the Philadelphia Record, as an April-fool joke, some eight or nine years ago, and its absurdity is demonstrated



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

mathematically as follows: A toy balloon, inflated will carry about an eighth of an ounce. Therefore to bear up a two-year-old child, weighing say thirty pounds, not less than 3,800 toy balloons would be necessary. And the most confident peddler of these playthings would hardly believe himself capable of selling that number even at a Chicago picnic.

IN A NUT SHELL.

The concluding sentences of the decision of the district judges in Duluth, Minnesota, against the beef inspection law, of which we gave an extended synopsis in our issue of August 29, constitute a tolerably hard nut for the beef conspirators to crack between their teeth. The judges say:

There is no question, that fresh, wholesome meat is an article of extensive commerce among the States at the present time. Of late years it has greatly increased and been facilitated by the device of refrigerator cars that are seen daily by the hundreds on all our trunk lines. Meat is transported hundreds of miles in a short space of time, and when it reaches its destination it is as fresh and wholesome as when placed in the car. It is one of the greatest and most important articles of interstate commerce, and it is not in the power of this State to prohibit commerce in it. Fresh meat is an article of interstate commerce; its regulation is exclusively in Congress, therefore a State law regulating it is void. Under the principles laid down governing police powers it is equally void. It is not an inspection law. It will not examine fresh meat to see whether or not it is wholesome. It puts all—the good and the bad alike—under the ban of destruction. It utterly destroys interstate commerce in this article, under the guise, it is true, of protecting the public health. But public health does not demand for its protection that wholesome fresh meats, the products of other States, be destroyed. A State cannot exercise such arbitrary power, no matter under what guise.

FRUIT FOR FOOD.

SOME TIMELY SUGGESTIONS FOR THE PRESENT SEASON.

Most fruit possesses a good deal of nourishment, but it is principally valuable for its salts and free acids, which are much required by the system at all times, but more especially when the weather is warm. Fruit, owing to these salts and acids, cool and purify the blood, and keep the entire alimentary canal in a healthy condition. These qualities are of special value to children and young people. In fact, if they were fed more liberally on fruit, and such meats as bacon, ham, etc., were tabooed, they would be in far better general health, free from heat rashes, rushes of blood to the head, digestive troubles, etc.; and, of course, vastly improved in temper. The fractiousness of children during

sultry days is a phenomenon well enough known to mothers, schoolmasters and others; but they all seem to ignore the fact that such ebullitions of temper originate, in ninety-nine cases out of a hundred, from digestive troubles, which could mostly be set right by judiciously reducing the meat diet, and allowing a larger proportion of sound fruit, either raw or stewed. The acids and salts contained in most fruits have a wonderfully purifying effect on the blood, and, besides keeping it cool and healthy, eliminate many earthy salts that would otherwise be absorbed into the system, and finally result in chalky gout, biliary and bladder calculi, and other diseases of a similar kind. Acid varieties of fruit are the best. As a rule, the healthy stomach will easily absorb any reasonable amount of fruit, taken at proper seasons. Weak and abused digestive organs will have to be treated more carefully, but will ultimately grow accustomed to a fruit diet, and be all the better for it. To do good, fruit must, of course, be properly ripe, and quite sound, if it is to be eaten raw. If for stewing, many kinds of fruit may be used in an unripe state, but in these cases they do not possess quite the same hygienic value as ripe fruit. Fruit that is fermenting should be rejected, unless it is made into a compôte, being thoroughly boiled and mixed with sugar. Fruit that is warm from exposure to the sun should be allowed to cool before being eaten. Another precaution, and one that is generally set at naught, is not to indulge in much fruit, especially if of a watery nature, after a heavy meat meal. As a general rule, the morning and mid-day meals are the best times for eating fruit, whether raw or stewed. A really wholesome breakfast, and one on which children and young persons would thrive, consists of raw fruit and whole-meal bread, with milk, or stewed fruit and porridge, or milk and farinaceous puddings. During warm weather only a small quantity of flesh food ought to be taken in the morning and at mid-day; and if stewed fruit and blancmanges or farinaceous puddings are made the staple dishes at these meals, much benefit would follow. As a rule, a fruit dessert in the evening and after a mixed meal ought only to be lightly indulged in, for the average stomach will but rarely tolerate a heavy influx of such cold and usually watery aliment as fruit. This is not the case if the fruit is eaten before or between the meat courses. A ripe melon eaten with salt or butter, before or immediately after the soup, can be freely indulged in. Experience teaches us that stewed or raw fruit may be largely taken between the courses. In many parts of the Continent this custom prevails; the Germans eat stewed fruits with many meats, and in warmer climes such fruits as grapes, plums, figs, melons and sweet lemons are habitually eaten with all kinds of dishes, or as palate refreshers between the courses. We might, with advantage, make much more use of stewed fruits with many meats, thereby pleasing the palate and conforming to hygienic laws. While refraining from advising the introduction of raw fruit on our tables between savory courses, we would urge the necessity of a greater appreciation of fruit, at all events for the summer months, as a primary item in family dietetic economy. By eating more fruit—raw when possible, or simply stewed with a little water and sugar—we should not only keep our blood cool and brains clear during the warm weather, but arrest the seeds of many painful diseases, which are only too common with the heavy flesh-eater when mature years are reached. There are few things more delicious than a good peach, pear, or dish of plums or currants in the early morning, immediately after rising; it prepares one for the day's work, and proves an excellent stop-gap until breakfast-time comes round. It is a mistake to add too much sugar when stewing fruit, for, although the sugar makes the compôte more nourishing, the fruit is not so easily digested, and soon satiates both the palate and stomach.—Food.

WIRE WHEELS.—Fly-wheels with rims of steel wire are now made in Westphalia, and may be run at three times the speed of cast-iron wheels, which are limited to forty yards per second for the rim.

SEALSKINS.

WHERE THEY COME FROM AND HOW THEY BECOME GARMENTS.

In any work on natural history, will be found under the head *Mammalia*, being a name applied by zoologists to that class of vertebrated animals who produce their young alive and nourish them by the secretions of the mammary glands; order *Carnivora* or flesh eaters, a sub-order *Pinnipedia*. These differ from the rest of the *Carnivora*, mainly in the structure of their limbs, which are modified for aquatic progression. This order is again subdivided into the *Otariidae* or sea bears, the *Trichechidae* containing the walrus and the *Phocidae* or typical seals. The true seals are the most completely adapted for aquatic life of the pinnipeds. When on land the hind limbs are extended behind them and take no part in progression, which is effected by a series of jumping movements, produced by the muscles of the trunk, in some species aided by the forelimbs only. There are several sub-families but it is only with the *Phocita*, or seals, we have to do. These have five incisors and twenty-nine molars, altogether thirty-four teeth, and their feet have well developed claws with interdigital membranes. Although seals swim and dive with the greatest ease, often remaining as much as a quarter of an hour or more below the surface, and are dependent for their sustenance entirely on living prey captured in the water. All the species frequently resort to sandy beaches, rocks or icefloes, either to sleep or to bask in the sun, and especially for the purpose of bringing forth their young. Strange as it may seem the young seals take to the water at first very reluctantly and have actually to be taught to swim by their parents. The number of young produced is usually one annually, though occasionally two. The true seal, when anything compels it to a rapid mode of progression can move so fast that a man has to step out beyond a walk to keep up with them. Seals are gregarious and especially at the breeding season congregate in immense herds. Seals are remarkably docile, easily trained when in captivity. Their sense of smell is very acute and their voice varies from a harsh bark or grunt to a plaintive bleat. They feed chiefly on fish and crustaceans, also on molluscs, echinoderms and even occasionally on seabirds, which they seize when swimming or floating on the water.

From a commercial point of view seals may be divided into hair-seals and fur-seals. The former are valued for the oil they yield and for their skins which are converted into leather, and the latter for their skins alone. The fur seals are provided with a dense soft under-fur like velvet and a quantity of long loose exterior hair, which has to be removed in dressing the hides. Hair seals are either entirely without under-fur or possess it in too small a quantity to render the skins of much commercial value as furs. These two groups of seals correspond to the divisions of eared and earless seals. The fur-seals occupy two distinct areas. None exist on the shores of the North Atlantic. South of the equator, they extend from near the tropics to the region of Antarctic ice. By far the most important and valuable seal fisheries are those carried on at the Pribyloff group of islands off the coast of Alaska, at the Commander Islands in the Behring Sea, and that in the same sea 700 miles west of the Alaskan seal islets. The species found here is the northern fur seal, *Callorhinus ursinus*. The males attain mature size about the eighth year, when their length is from seven to eight feet, their girth from seven to eight feet, and their weight, when in full flesh from 500 to 700 lbs. The females are full grown at four years old, when they measure four feet in length, two and a half in girth, and weigh from eighty to a hundred pounds. The yearlings weigh from thirty to forty pounds. The seals resort to these islands late in the spring chiefly for reproduction purposes, making their appearance from the southward. The number annually visiting the Pribyloff group is estimated at

five millions. About the middle of April the males begin to arrive and take their places along the shore in "the rookeries," as the breeding grounds are called. The younger males are prevented from landing by the older, and are compelled either to stay in the water or go to the uplands. By the middle of June all the males have assembled and then the females begin to appear. Each old male seal collects from ten to fifteen or more females, whom he guards most jealously. The males fight furiously making an aggregated sound like the noise of an approaching railway train. By the middle of July the family circle is complete. Soon after landing the female gives birth to one pup, weighing about six pounds, which she nurses at wide intervals without any affection. No food is taken by the males while on the rocks, a period of three or four months. When the males leave after this long fast they are reduced to one half their former weight. In the end of October and middle of November all leave the islands, the young males going last and by themselves. The killing of the seal is carefully regulated. No females are killed, and only a certain number of young "bachelor" seals whose skins are of a superior quality. These younger male seals are spread out on the slopes above the rookeries to rest. A party of men armed with clubs of hard wood creep quietly between them and the shore, and at a given signal start up with a shout and drive the seals inland. When they reach the killing grounds near the villages, they select those that are two or three years old and seem likely to yield the most valuable fur. These they despatch with a club. The skins are carefully salted for exportation. Besides the skin each seal yields about a gallon and a half of oil, but this is not used as the rank odor makes refining very costly. The value of the skins in the raw state varies from five to twenty-five dollars each. The quality of the Alaska furs is superior but those obtained in the Antarctic regions are rated best. The roots of the loose exterior hairs penetrate deeper into the skin than those of the fur or short hair, and can readily be cut by parting on the fleshy side without touching the roots of the fur; the long hairs then drop off leaving the valuable fur below in a sheet like pure velvet. The number of seals killed on the Pribyloff Islands is limited to 100,000 annually and with the precaution taken they increase as fast as if left to themselves, for when the number of males is in excess, the continual fighting on the rookeries, destroys many of both females and young which get trampled to death. Alaska was purchased from Russia by the United States in 1867 and in 1870 the Pribyloff Islands were leased to the Alaska Commercial Company for an annual rental of \$55,000 and a tax of \$2.62 on each skin taken. This company also leases the Commander Islands from Russia and about 30,000 fur seals are annually taken here. The South Sea seal fisheries are carried on by American fishermen, principally hailing from New London and Stonington; also by a few Chilians and other South American vessels. About \$50,000 skins are annually secured here. About 10,000 fur seals annually are taken in the Southern Indian Ocean and a few along the south-west coast of Africa and also in the Okhotsk Sea. Nearly all the fur seal skins find their way to London where they are plucked dressed and dyed. A few, however, are prepared in New York. At the seal islands they are salted and baled with the fur inside and in this manner shipped to London. The annual yield of the fur-seal fisheries of the world is about 185,000, the value of which would be about one million and a quarter dollars. There is a popular but very erroneous idea that the skin of the seal has much the same appearance on the back of its rightful owner that it has upon that of the fair creature who eventually wears it. Nothing can be further from the truth. Few skins are less attractive than is the sealskin when first taken from the seal. The fur is not visible, but is concealed entirely by a coat of stiff overhair, dull gray brown and grizzly. The process of dyeing them is tedious and expensive, requiring a great amount of skill and experience. The dye too, is in the main a secret, which is possessed almost entirely by

English houses, although there are two or three American concerns who do splendid work. Their output, however, is so insignificant that London may be said to have a virtual monopoly of the trade. All sales of raw skins are now made in that city. The average price of a raw skin in London is \$10. After they are dressed they will readily bring \$25 each.

The process of dressing them differs, each establishment having its own methods. In the main, however, it is done about as follows: When the skins are received by dressers they are still in the salt. The skins are first placed upon a beam somewhat like a tanner's beam, the salt is washed off and all the fat is removed from the flesh side with a beaming knife, care being taken that no cuts or uneven places are made in the pelt. The skins are next washed in water and placed upon the beam with the fur up, after which the grease and water is removed by scraping with a knife. They are then stretched on frames and dried in a moderate heat, after which they are again plunged in water and thoroughly cleansed with soap. The cleansing process completed, the skins pass to the "picker," who dries the fur by stove heat, the pelt being kept moist. When the fur is dry he places the skin on a beam, and while it is warm removes the main coat of hair with a dull shoe-knife, grasping the hair between his thumb and his knife, the thumb being protected by a rubber cob. The hair must be pulled out, not broken. This process is continued until every coarse or outer hair, long or short, is worked out from the pelt. The skins are then dried again and shaved on the pelt side to a fine even surface. They are next stretched and softened either in a fulling mill or by a workman, who throws them into an open hoghead and dances upon them barefooted until they are broken into leather.

They are now ready for dyeing, which is done by applying the liquid dye, made according to the different formulas used by the various firms and put on with a brush, carefully covering the points of the standing fur. After lying folded with the points touching each other for some little time, the skins are hung up and dried. The dry dye is then removed, another coat applied, dried and removed, and so on until the required shade is obtained. From eight to twelve coats are required to make a good color. This tedious process over, the skins are ready to be made into cloaks, sacks, dolmans and other garments chiefly for ladies' wear. From three to five skins are used, according to the size of the garment required. It is an interesting and rather significant fact that, although more than 80 per cent. of the entire sealskin product of the world is gathered on American soil, the American people are about the only people on the globe who pay a tax for the privilege of using them. This anomaly is brought about by the fact, as has been shown, that nearly all skins are dyed in London. More than 75 per cent. of the dyed skins find their way back to the United States, and must pay a duty of about \$6 per skin before they can pass the custom house. This increases the cost of a skin to about \$30. As it requires five skins to make a dolman, the cost of the raw material would be about \$150; hence the high prices of these garments.

The demand for seal garments is steadily increasing, while the supply must, for many years at least, remain fixed at about 170,000 skins per annum. It is therefore apparent that there will be no immediate decrease in price. On the contrary, the sales in London last October showed an advance over those of former years of more than 40 per cent. Of course, fashion's commands have much to do with the demand for sealskins, but it is plain that they now have an intrinsic value just as gold and silver have, and that they always will have it, no matter what be the styles. Even if they were not considered stylish, sealskin garments would be a costly purchase to the wearer, and will always be so.

Subscriptions \$1 per year. Now is the time to subscribe.

OLD NEW YORK.

A VALUABLE COMPENDIUM OF LOCAL HISTORY.

A new magazine bearing the apparently contradictory title of "*Old New York*" has just made its appearance under the editorial guidance of Mr. Wesley W. Fasko, the erudite secretary of the Typothetæ Society of this city. As the name suggests the new periodical is to be devoted to the history and antiquities of the American metropolis. The initial number, before us, gives promise of rare excellence both in mechanical execution and in the quality of the reading matter. The work, the editor informs us, is intended to cover the entire range of events from the period of Hendrik Hudson down to recent times. All available material in the possession of the State and City Governments, the files of newspapers which are extant, the pamphlets and manuscripts in our public libraries, the letters of those who have passed away, references in books of travel, and in fact every thing that can be obtained will be examined and digested. Many well known New York collectors and antiquaries have promised their assistance, and it is believed that the repository thus made will speedily be regarded as a most valuable one. One prominent feature of *Old New York* will be its indexes. These will refer to the collections already made or books already published, enabling writers on New York topics to have brought before them all that has been said or written elsewhere. Each number will contain at least sixty-four pages of reading matter, thus making two large volumes yearly. Many of the articles will be illustrated; each volume will have a copious index, and each series of volumes will also contain a general index, similar to those in Notes and Queries. The price will be \$5 a year. We shall take occasion to refer to *Old New York* again at an early date.

SURPLUS DOCTORS.—In 1886 Dr. J. H. Rauch said there were from 1,500 to 2,000 physicians in the State of Illinois more than necessary to supply the legitimate demands for professional services, and who were not earning a comfortable livelihood from legitimate professional exertion. Between the years 1880 and 1886, 1,060 physicians left the State after having registered for practice.

HYGIENE AND HURRY.—There are many simple rules of health violated because it is considered inconvenient to obey them, but it is the violation of these same simple rules that burdens life with that greater inconvenience—ill-health. The busy man will find that it takes far less time to comply with hygienic laws than it does to suffer the sickness resulting from their violation.—*Sanitary News.*

QUARANTINE STATIONS.—Owing to a reduction in the appropriations, three of the national quarantine stations on the Atlantic coast, one in the Gulf, and two on the Pacific coast, will be closed on the 1st of October. The Governmental appropriation amounts to \$50,000, and as this amount is insufficient to maintain all the stations now in operation throughout the year, two only will be kept open—namely, the one at San Francisco and one on the Gulf coast.

A SUBSTITUTE FOR OLIVES.—Instead of olives a kind of burnt almond has been introduced of late between the courses at dinner. These are very simply prepared. Get some fresh butter to boiling point (if put in before the butter is brown and fizzling, the almonds will not turn brown so readily); drop in your almonds—blanched, of course; fry until of a golden brown, and sprinkle a little salt over them while hot. *Voilà tout!* The so-called Coolie-nuts, after being nicely baked, make a capital and novel substitute.

TO MAKE ICE AT HOME.—Take a cylindrical vessel and pour $3\frac{1}{2}$ ounces of commercial sulphuric acid and $1\frac{3}{4}$ ounces of water into it, and then add one ounce of powdered sulphate of soda. In the centre of this mixture place a smaller vessel containing the water to be frozen; then cover the vessel and, if possible, revolve the whole with a gentle motion. In a few minutes the water in the small vessel will be converted into ice. The same mixture can be used a second or a third time for making a block of ice. The operation should, if possible, be performed in a cool place.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

September.

MEATS.—Beef, mutton, lamb, veal, ham, kidneys, liver, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Bass, blackfish, bluefish, clams, cod, crabs, eels, flounder, halibut, herring, lobster, mackerel, muskels, porgie, prawn, rockfish, salmon, trout, sea bass, sturgeon, turtle, white fish, whiting.

VEGETABLES.—Beets, beans, cabbage, carrots, cauliflower, corn, cucumbers, egg-plant, garlic, lettuce, onions, parsley, parsnips, potatoes, radishes, rhubarb, savoy, shallots, spinach, squash, tomatoes, turnips.

FRUITS.—Apples, bananas, blackberries, gooseberries, huckleberries, grapes, melons, oranges, peaches, pears, pineapples, plums, raspberries, currants.

PRACTICAL RECIPES.

BEEF KIDNEY.—Cut the kidney in slices, and put a layer in the bottom of the dish; take some finely shred parsley, thyme, sweet herbs, mixed eschalots and mushrooms, with paper and salt to taste, and sprinkle over the layer of kidney; proceed thus alternately until the dish is full; cover the top with slices of bacon; bake the pie, and when done pour in some boiling stock or good gravy.

CHICKEN FRITTERS.—Make some good batter with a cup of flour sifted; melt a tablespoonful of butter in a scant cup of warm water, which pour by degrees to the flour, making a batter thick enough to mask the back of a spoon dipped in it; salt to taste; add, the last thing the white of an egg well beaten; make the chicken mixture into balls the size of small walnuts, dip into the batter, and drop from the spoon into very hot fat, the same as croquettes.

FLOUR GRIDDLE CAKES.—Mix with one quart flour, three teaspoonfuls Horsford's baking powder, and one teaspoonful salt; then add one tablespoonful melted butter, two well-beaten eggs, and milk enough to make a batter of proper consistency; cook immediately.

FRUIT FRITTERS.—Soak a teacupful of fine bread crumbs in a cup of hot milk till they are very soft, then stir in a tablespoonful of flour wet with two tablespoonfuls of cold milk; boil till it thickens, stirring to prevent lumps; to this add the well-beaten yolks of three eggs when it is sufficiently cool, then half a teacupful of jelly or jam, or small berries, and lastly the well-beaten whites; fry at once in hot fat.

HAZELNUT KISSES.—Beat one pound of pulverized sugar with the whites of eight eggs over a slow fire until they are light; then add four ounces blanched filberts cut fine; lay them out on paper and bake in a slow oven.

AGNES' LEMON PIE.—Yolks of two eggs and one whole egg, one cupful of sugar, one heaping tablespoonful flour, one-half cup water, juice and pulp of one lemon, piece of butter and pinch of salt; beat the eggs thoroughly, and to them add the sugar and flour mixed together; beat well and put in the salt, melted butter, water and lemon; this makes one pie; bake with lower crust only, and spread over the top a meringue made of the whites of two eggs and three tablespoonfuls of powdered sugar.

GRAHAM BREAD.—Half fill a bread bowl with half Graham and half white flour; put to it a tablespoonful of salt, half a cup of sugar and half a cup of molasses, and half a yeast cake dissolved in a little warm water; use enough water to make a thick batter; set to rise over-night; in the morning dip it out into greased bread pans, and set to rise again when light; bake in a good steady oven that will not burn. Very good recipe.

RUDIMENTARY ORGANS.

SOME SINGULAR SUPERFLUITIES IN THE PHYSICAL FRAME
OF MAN.

One of the strongest confirmations of the Darwinian theory of descent is found in the existence of rudimentary organs in animals, which, while subserving no useful purpose, still exist as an inheritance from some lower form of life to which they were both useful and necessary. One of the most familiar examples in the human body is that of the nails. These appendages are really of no particular use, and render no service in the struggle for existence. Artificial uses have been found for them, it is true; we could hardly open our pen-knives without their aid, but this is a case where their previous existence has suggested a subsequent use. The nails suggested the common type of knife-blade, but they were certainly not developed through many generations of knife-opening beings, with the survival of those best fitted to open their knives with promptness in case of trouble. It is only when we look back among the lower animals, and see how important a part of their means of offense and defense the nails become, that we realize that our digital appendages are simply the useless degenerate forms of those which, in some very remote progenitor, were of the greatest importance to his comfort and safety. The hair may be considered as another worthless inheritance of ours, and the occasional cases where it grows quite thickly upon the body as a partial reversion to some former type. It is a curious fact that it still grows luxuriantly upon the head, where it is of very little use, and its presence there is hard to be explained, except by considering it as an ornamental appendage, like the brilliant plumage of birds, thus bringing into play the principle of sexual selection. The fact that women rarely become bald adds weight to this supposition. One of the most curious instances of a rudimentary organ is to be found in the *cæcum*, a portion of the intestines, which is in shape like a small pouch, attached to the alimentary canal. It subserves no use whatever in the human organism, and is, in fact, a source of danger, for, although the opening is closed by a wonderfully constructed valve, yet fatal accidents have occurred from foreign matters passing into it, and inducing inflammation and abscesses. If we examine the intestines of a herbivorous animal, such as an ox, we find the same *cæcum* present, but greatly enlarged, and usually filled with partly digested food. In these animals it is undoubtedly an important part of the digestive apparatus, but only survives in man as a useless and dangerous appendage. Certain valves in the veins of man are very poorly adapted to support the blood pressure due to an upright position, and were probably first developed in some animal which walked upon all four limbs, and it has recently been discovered that the portal veins of newly born infants contain rudimentary valves, which soon disappear, but which are always present in some of the lower animals during their entire life. Rudimentary organs are found in other animals as well as man. The clavicle, or collar-bone, of the cat is a small bone, apparently of little consequence, but in man it is a most important means of maintaining an outward position of the shoulder-joint, so as to allow the widest range of motion to the limb. The "jew-claws" which hang down from the feet of deer, and the splint bones in a horse's leg, are well-marked survivals of a previously useful member. The occasional occurrence of uncommon organs in the human body may rather be considered as cases of reversion to former types, than as direct survivals. The power possessed by certain persons of moving the ears and scalp, is an instance of this, as well as the hairy men and women, and many other dime museum "freaks." There are certain organs of which the use is still unknown, such as the supra-renal capsules or the prostrate gland, which may or may not be survivals. It is more probable that they serve some unknown purpose in the human economy, especially as

when attacked by disease they often produce severe constitutional disturbance. The presence of rudimentary organs is, however, a settled fact, and is a strong argument against the distinct and separate origin of the different forms of life. It is impossible to think that the superfluous and dangerous *cæcum* would have been introduced into the human anatomy if man had come into existence independently of those forms in which it is an important organ, and it is a belittling conception of a Creator which regards him as forming his special creations in weak imitation of each other, and endowing them with useless organs and members, without regard to the varying conditions of their future environment.—*Pop. Science News.*

BOILS—THEIR CAUSE AND CURE.

One of our humorists, in commenting on the popular old saw that "boils are healthy," says, in effect, yes, boils may be healthy, but not the poor victims who suffer from them. There our humorist hit the truth. Some one else has asserted that the best place for a boil was on some other fellow. All can endorse this; for almost every one has had enough experience to know how extremely painful and annoying these eruptions are. But what are boils? and how may they be best cured or prevented? A boil may be defined as a limited area of inflammation situated in the loose tissue which binds the skin to the deeper structures. Generally it starts in or around a sweat gland and approaches the surface as it grows. Many theories have been advanced to account for the origin of boils, but it has now come to be pretty well established that they are caused by the growth in the tissues of certain minute organisms. These are found in every abscess; they can be cultivated, their life history can be studied, and when they are placed in the tissues again under favorable circumstances another boil, precisely like the first, is produced. How these bodies find their way into the system it is sometimes not easy to say, but probably it is through some slight break in the skin which has escaped notice. Some persons seem to present a more suitable soil for the cultivation of the germs than others and certain conditions of the system are very favorable to their development. A lowered vitality, sea bathing, changes of diet, especially during athletic training, and convalescence from certain fevers, are not uncommonly followed by boils. Children with scrofula and rickets are apt to suffer. Excessive sweating, lack of cleanliness, the long use of poultices, the application of irritants to the skin, and especially the chafing of clothing, seem to favor their formation. Any part of the body may be affected, but they are most frequently seen on the back of the neck, in the arm-pit and on the lower part of the trunk. Where the skin is firmly tied down, as in the passage of the ear, the pain and tenderness become intense; in the looser structures it may be but moderate. If left to itself a boil will break in four or five days, and discharge pus, and, generally, some dead tissue known as "core." It is usual to apply poultices till the abscess nears the surface and then make an opening; but often, if a free incision is made at the beginning, the process will be arrested. Poultices are of benefit only to relieve pain; they should not be continued after the incision is made, since they serve but to prolong the discharge. More than that, Dr. Pye Smith, of London, in the course of a recent discussion declared his belief that the crops of boils which sometimes are seen in the case of school children are due to the transfer of germs, by means of poultices, from an open sore to the glands of the healthy skin. The rational treatment, then, is an early opening and washing-out of the boil, using fluids that are destructive of the germs. At the same time the general health must be seen to, in order that it may offer a sufficient barrier to further inroads. The best method of improving the general health, and thus preventing the recurrence of boils, is by the use of Ayer's Extract of Sassa-parilla, which contains just the medicinal properties required by persons subject to these afflictions. This ex-

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHAEMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPER-EMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTOR OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER McGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTOR OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

cellent and well-known alterative acts on the digestive, assimilative, and excretory organs with such beneficial effect as to result in a thorough cleansing and toning-up of the system, when the boils and all other cutaneous eruptions entirely disappear.

AMMONIA AND BATHING.—The *Annals of Hygiene* has discovered there is nothing that so quickly restores tone to exhausted nerves and strength to a weary body as a bath containing an ounce of aqua ammonia to each pail of water. It makes the flesh firm and smooth as marble, and renders the body pure and free from all odor.

VALUABLE DEVICE.—A self-counter sinking screw is a novelty. It is simply fitted with cutting teeth on the under side or bevel of the head, which cut into the wood as the screw is driven home, thus enabling the head to counter sink itself. The channels and the teeth are both wider as they near the top of the head, thereby allowing the sawdust to escape.

ANTISEPTIC WHITING.—An antiseptic whiting has recently been introduced, and is recommended by the makers for hospitals, ships, stables, kennels, etc., in order to keep them free from insects. The compound, which appears to contain some camphor, is also useful for cleaning silver plate and articles of domestic use. The aroma is said to be not unpleasant, while the compound is non-poisonous and will not injure colors.

PETROLEUM DETERGENT.—Miss Gordon Cumming has drawn attention to the cleansing effect of petroleum on soiled clothes. The best way to employ it is to fill an average boiler, say of fourteen gallons, with water, adding half a pound of soft soap, and when all is boiling thoroughly pour in one and a half tablespoonfuls of petroleum. Then put in the clothes and boil them for half an hour before lifting them out and rinsing them in several waters. A little more soap, water and paraffine should be added to make up for loss as successive lots of the clothes are boiled.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME
OF
HARTSHORN

ON LABEL,
AND GET
THE GENUINE

Stewart Hartshorn

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Harvathy & Co.

Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.



PUBLISHED EVERY SATURDAY.

In the Interest of the

Architect, Builder, Sanitarian, Contractor, Engineer & Decorator.

Subscription, \$6.00 a Year In Advance.

SAMPLE FREE.

THE BEST ADVERTISING MEDIUM OF ITS CLASS
PUBLISHED. TERMS REASONABLE.

MODERN ARCHITECTURAL DESIGNS AND DETAILS.

A Monthly Publication devoted to Exterior and Interior Architectural Details.

Subscription, \$5 a year. 50c. a Copy.
Sample Copy, 25c.

ADVERTISING RATES ON APPLICATION.

NOW READY, 1889 Catalogue of Architectural Books and Miniature Catalogue of Drawing Instruments.

WILLIAM T. COMSTOCK, Publisher,
23 Warren St., New York.

Subscriptions \$1 per year Now is the time to subscribe.

A BOOK FOR EVERY LOVER OF FICTION! Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

DRY SALT.—The hygroscopic quality of table salt and its tendency to pack together in cruets and containers, may be entirely overcome by thoroughly drying the salt and intimately mingling with it a small percentage of dry corn starch or arrowroot. From 8 to 10 per cent. is amply sufficient for the most humid atmosphere (as on the sea coast), while a much less percentage of the starch is sufficient for ordinary use.

VARIATIONS IN MILK.—From the results of about 50,000 analyses made in the laboratory of the Danish Dairy Supply Company, it is found that the dry matter less fat is an almost constant value (8.7 to 8.8). The fluctuations in total solids depend almost entirely on variations of the fat. The evening milk contains more fat and more total solids than the morning milk. In October and November the milk is richer in fat and total solids than in other parts of the year.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

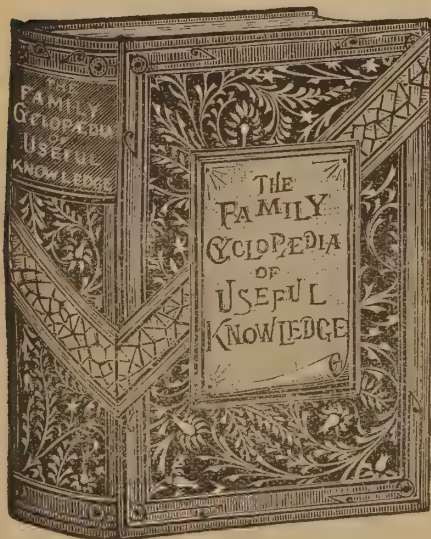
"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPEDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



Mothers Know the danger in using a poorly washed Nursing bottle—it often causes death. A bottle washed with Pyle's Pearline and water will be perfectly clean—cannot be otherwise. Not necessary to use shot, etc., etc. Ordinary servants may be trusted to wash the baby's bottle if you see that they use Pearline. It has no equal for washing children's linen. For sale by Grocers everywhere. Manufactured by JAMES PYLE, New York.

AMERICAN ANALYST CLUB RATES.

	Regular	Price including Analyst.		Regular	Price including Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 25
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.



BLAIR'S PILLS

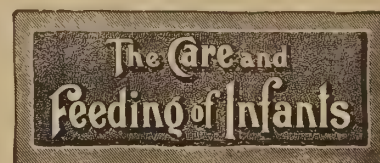
Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval round box 14 pills.
At all druggists, and 224 William St. New York



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

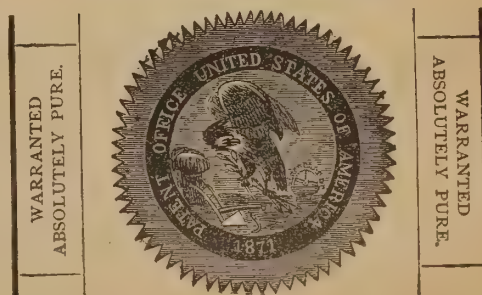
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

Subscriptions \$1 per year. Now is the time to subscribe.

OUR MISSION.**WHAT THE AMERICAN ANALYST IS DOING.****FIGHTING ADULTERATION.**

The steadily growing favor which the **AMERICAN ANALYST** is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the **AMERICAN ANALYST** has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the **AMERICAN ANALYST** is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which these bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are wide-spreading.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the **AMERICAN ANALYST** also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the **AMERICAN ANALYST** does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose spurious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the **AMERICAN ANALYST** will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,

19 Park Place, N. Y.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

Crayon Portraits.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

A BOOK THAT EVERY LADY NEEDS.

THE LADIES' GUIDE TO FANCY WORK.



How to make the Home Beautiful at small cost is a subject now uppermost in the mind of every lady of good taste. This book is a complete practical instructor in every description of Ladies' Fancy Work, and the only first-class work of the kind ever published at a low price. It contains nearly 300 illustrations, and the instructions given are so plain and simple that by their aid even a child may make the many beautiful things which the book describes. It gives plain and practical instructions in Drawing, Oil Painting, and making Wax Flowers; likewise all kinds of Fancy Needle Work, Artistic Embroidery, Lace Work, Knitting, Tatting, Crochet and Net Work. It contains designs for Monograms, Initials, Cross Stitch Patterns, Knit Edgings, Embroidered Borders and Corners, Macramé Work, Applique Embroidery, Berlin Work, Java Canvas Work, Tricot and Burlaps, Antique Lace, Beaded Lace, Darned Net Work, Filles, Lambrequins, Ottomanas, Counterpanes, Rugs, Carriage Robes, Brackets, Wall Pockets, Waste Paper Baskets, Work Boxes, Work Baskets, Work Bags, Pen Wipers, Hanging Baskets, Catch-alls, Pin Cushions, Footstools, Handkerchief Boxes, Glove Boxes, Card Baskets, Sofa Pillows, Table Covers, Table Scarfs, Screens, Scrap Bags, Hand Bags, Table Mats, Toilet Mats, Lamp Mats, Lamp Shades, Pillow Shams, Pillow Sham Holders, Curtains, Toilet Stands, Picture Frames, Slipper Cases, Letter Cases, Toilet Sets, Clothes Brush Holders, Cigar Boxes, Hassocks, Sachets, Fancy Purses, Slippers, Dressing Gowns, Music Portfolios, Knife Cases, Fans, Flower Baskets, Plant Stands, Flower Pot Covers, Shawls, Dress Trimmings, Window Shades, Feather Work, Spatter Work, Leaf Photographs, and many other things. It is a book that should be in every American household. With it as a guide you may make hundreds of beautiful things for the adornment of your home and for presents to your friends at the most trifling expense, and no employment for ladies is more fascinating and useful. The book will repay its small cost many times over in a very short time. Every lady will be delighted with it. It is a large book of 64 large 3-column pages, with handsome cover, is finely printed, and, as above stated, contains nearly 300 illustrations. It will be sent by mail, post-paid, upon receipt of price, only Twenty-five Cents.

INVALUABLE TO EVERY HOUSEWIFE!

THE MODERN COOK-BOOK AND MEDICAL GUIDE.

This is practically two books in one—a perfect cook-book and a perfect medical book—and there is so much in it, and so much care and pains have been taken in its compilation, that we feel perfectly safe in asserting that the Cooking department is fully the equal, in quantity and quality of contents, of any low-priced cook-book published, and the same as to the medical department herein as compared with any low-priced medical work on the market. It is a complete encyclopedia of domestic information, and we fully believe that no lady, after having it in the house a short time, would willingly do without it for ten times its cost. The cooking recipes number 627, and include Breakfast Dishes, Soups, Meats and Poultry, Fish, Vegetables, Salads and Relishes, Bread and Rolls, Jellies and Preserves, Puddings and Pies, Fancy Dishes, Cakes, Confectionery, Ice Cream and Summer Drinks. The compilation of this department was superintended by a practical housekeeper, every recipe will be found reliable, and it has been pronounced one of the best, most complete, and practical cook-books published. The Medical Department will be found fully the equal of any doctor book published at one dollar or less. It tells you how to cure, by simple means, available in every home, Malaria, Pneumonia, Poisons (antidotes for), Nervousness, Measles, Rheumatism, Toothache, Wounds, Sprains and Bruises, Weak and Inflamed Eyes, Dust in the Eye, Sore Throat, Scall Head, Whooping Cough, Neuralgia, Earache, Worms, Warts, Burns and Scalds, Headache, Offensive Breath, Bleeding (to stop), Cancer, Consumption, Felons, Dyspepsia, Dysentery, Diphtheria, Diarrhoea, Croup, Corns, Liquor Appetite, Coughs and Colds, Cold in the Head, Catarrh, Scarlet Fever, Nose Bleed, Baldness, Smallpox, Sleeplessness, Ringworm, Chills, Costiveness, Cholera Morbus, Bright's Disease, Convulsions, Mumps, Superfluous Hair (to remove), Hysterics, Colic, Sciatica, Biliousness, Nettle Rash, Typhoid Fever, Ingrowing Toe Nails, Stammering, Hemorrhage, Asthma, Hydrophobia, Scrofous, Bronchitis, Lockjaw, Erysipelas, Hoarseness, Chills and Fever, Dropsy, Bunions, Pits, Dandruff, Scurf, Quinsey, Heartburn, Syphilis, Liver Complaint, Cramps, Corpulence, Sunstroke, Knock-knees, Indigestion, Jaundice, Gout, Prickly Heat, Ulcers, Salt Rheum, Fainting, Boils, Tobacco Habit, Gray Hair (to prevent), Cholera Infantum, Deafness, Stiff Neck, Piles, Choking, Freckles, Pimples, Sunburn, Chapped Hands, and many other ailments. It will save you many dollars annually in doctors' bills and patent medicines. Who can doubt that twenty-five cents invested in such a useful and valuable book as this would be the best and most profitable investment that could possibly be made of so small a sum? THE MODERN COOK BOOK AND MEDICAL GUIDE is a large book of 128 pages, neatly bound in colored covers. It will be sent by mail post-paid to any address upon receipt of only Twenty-five Cents.

AVOID LITIGATION! BE YOUR OWN LAWYER!

EVERYBODY'S LAW BOOK.

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights, and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic Law, by a prominent member of the New York bar, containing concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Affidavits, Agency, Agreements, Apprentices, Arbitration and Award, Assault and Battery, Assignments, Attachments, Banks, Bills of Exchange, Checks and Promissory Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardians and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warranty, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executions and Administrators' Accounts, Interest, Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value, and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. EVERYBODY'S LAW BOOK is a large volume of 128 pages, 12mo, with handsome cover. It will be sent by mail, post-paid, upon receipt of only Twenty-five Cents. Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

For School Exhibitions and Public and Private Entertainments.

The Complete Book of Recitations and Dialogues.

This book contains, so far as we know, the best and most complete collection of recitations ever published in a single volume. All the popular recitation books of the day have been consulted and the cream selected, and the result is a mammoth collection of recitations which cannot fail to answer every requirement. There are hundreds of them, and they embrace every kind and character of recitations, adapted to every need, humorous, dramatic and pathetic—from short juvenile pieces for the little boys and girls on Friday afternoons to pretentious dramatic works for the professional elocutionist. We have space to enumerate the titles of only a very few of them, as follows: "Ostler Joe," "Asleep at the Switch," "The Last Hymn," "The Deadman's Journey," "The Engineer's Story," "Cripple Ben," "Two Loves and a Life," "The Mother-in-Law," "The Old Parson's Story," "Taking Toll," "The Engineer," "The Tramp," "Tim's Daisies," "John Darryll's Dream," "Too Late," "The Book-keeper's Dream," "Saving Mother," "Curfew must not Ring To-Night," "The Palmetto and the Pine," "The Polish Boy," "Drafted," "The Blacksmith's Story," "The Burning Prairie," "Guilty or Not Guilty," "The Foreclosure of the Mortgage," "The Clown's Baby," "Bill Mason's Rule," "How we tried to Whip the Teacher," "Driving Home the Cows," "Somebody's Mother," "When the Rule Goes Out," "The Old Farmer's Elegy," "Wilder Spriggins' Daughter," "The Light-keeper's Daughter," "How the Parson Broke the Sabbath," "Which Shall it Be?" "Somebody's Darling," etc., etc. In addition to the Mammoth collection of Recitations contained in this book, it also contains a number of fine Dialogues, mostly humorous, among which are: "Marrying a Poetess," "What's in a Name?" "The Train to Mauro," "The Graduates," "The Female Astrologer," "Proposing by Proxy," "Story-Telling," "The Morning Call," etc. Those who have sent for books of this character and been disappointed in them, owing to the meagreness and inferiority of their contents, will be happily surprised in this book, for not only is it the largest collection of Recitations and Dialogues ever sold at a low price, but great care has been taken in the selection of its contents, the aim being to include only the best. It is a splendid book, guaranteed to give satisfaction. THE COMPLETE BOOK OF RECITATIONS AND DIALOGUES is a large book of 64 large 3-column pages, with handsome colored cover. It will be sent by mail post-paid to any address upon receipt of only Twenty-five Cents.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF

THE ABOVE BOOKS

FREE.

To any one who will send us One New Subscriber to the AMERICAN ANALYST for one year, at \$1, we will send, Free, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the AMERICAN ANALYST. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no re-constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only THREE possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract. WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peppones.	MALTO-VIBURNUM.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pustules, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist, 125 West 42d Street, NEW YORK CITY, N. Y.
P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS

ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK

WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

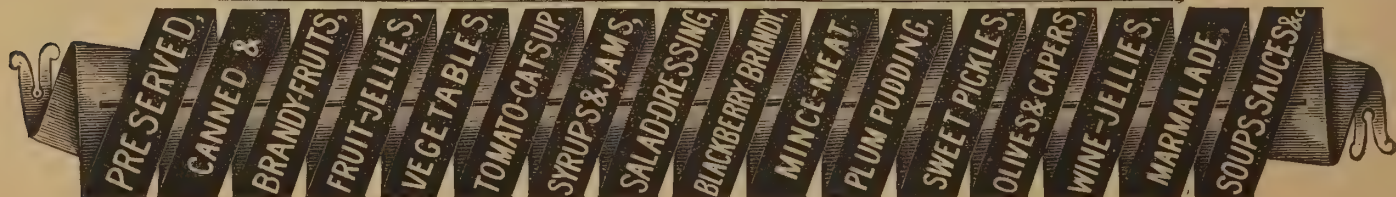
TABLE DELICACIES

GREENWICH ST. NEW YORK

CHOICE & DESSERTS

OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

Pure  BEER,
LAGER

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES

BY
Beadleston & Woerz
291 W. 10th St New York.

Orders by Postal Card 
 promptly attended to.

LEA & PERRINS'

SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

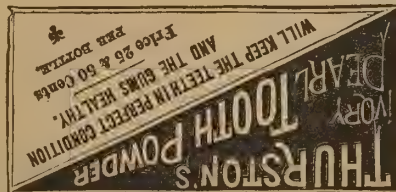
JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



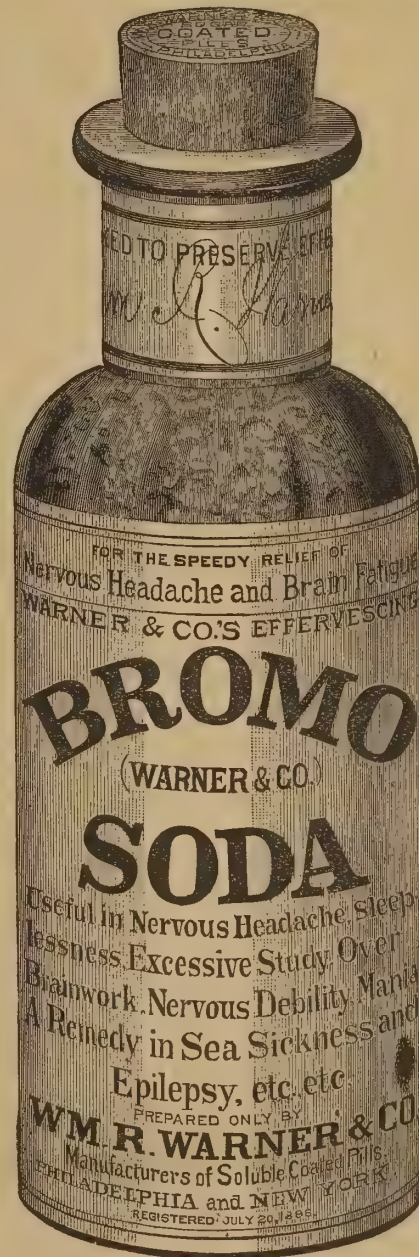
Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.

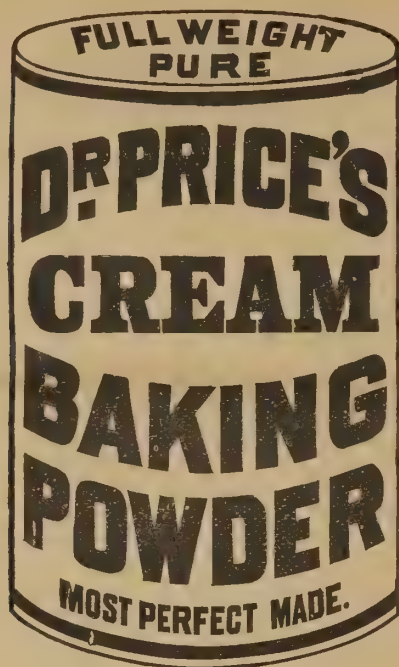


ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the 'Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

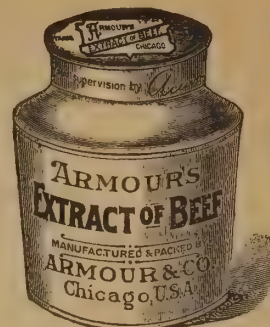
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

**SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.**

**ARMOUR'S
EXTRACT OF BEEF.**

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

**INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS**

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S
LIQUID
BEEF TONIC.

ORIGINAL LABEL:

"Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M.D., F.R.S., and an endorsement by SIR ERASMUS WILSON, F.R.S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the **AMERICAN ANALYST.**

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 38.

NEW YORK, THURSDAY, SEPTEMBER 19, 1889.

WHOLE No. 134.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - - \$1 per year.
Single Copies, - - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Beet Sugar	447
Dinner Manners	446
Domestic Dietetics	448
Editorials	445
The Kitchen; The Senate Dressed Beef Committee; Bogus Cloves; Execution by Electricity; Who Makes the Profit?	
Insomnia	446
Pine Pillows	448
Western Beef Cattle	448

"THE KITCHEN."

The subscribers to *The Kitchen*, a magazine recently published in Chicago, will be gratified, doubtless, at receiving the AMERICAN ANALYST for the unexpired term of their subscription to the former publication. The *Kitchen* was ably conducted, but the field it essayed to cover is so thoroughly embodied in that of the AMERICAN ANALYST, as to render a separate publication in that interest superfluous. We hope to commend ourselves to the large constituency thus added to our list in such a manner as to render the relationship both acceptable and permanent.

THE SENATE DRESSED BEEF COMMITTEE.

Senator Vest, who is chairman of the Senate Committee on the Dressed Beef industry, is well known to bear no good will to that industry. He seems to think that his political power depends upon playing the demagogue and posing before his constituents in Missouri as a bitter opponent of dressed beef. It was to be expected that he would not miss any opportunity to bring out be-

fore that committee every statement that could possibly damage that important business. So long as he confined himself to witnesses who were interested on the same side with himself and who gave their impressions and opinions very freely he got just the kind of vague, wild statement he wanted, but when he touched on facts, as he did in the examination of Mr. S. B. Armour, at Kansas City, he got more than he bargained for. It was a perfect boomerang. Sworn facts and figures showing just the reverse state of things to that which he was desirous of bringing out did not sit well on his mind. Like a pettifogging country lawyer he endeavored to stop the witness and switch off on another track, but the harder he tried the worse he was off, until he found himself in the most ridiculous attitude of having brought out the strongest evidence against himself. The subjoined extracts from this testimony are interesting to those who want to know the truth, unappetizing as it may be to Mr. Vest.

"Mr. Reagan was recalled by Senator Farwell, who wanted to know why the prices of cattle had fallen so much during the last ten years. It was for two reasons, the witness thought, first, over-supply, and, second, the control of the market by a few men.

"Which has the greater effect?" asked Mr. Farwell.

"The over-supply," answered the witness.

"The control of the market by buyers don't amount to much, then?"

"No, very little."

S. B. Armour, head of the Armour Packing Company, of this city, testified that he had no agreement with the railroads by which he got lower rates on shipments than any other firm. The witness denied that he was a member of any combination whose purpose it was to control either the prices of cattle or dressed meats. The Territory was not divided up between the packers. All the packers were in all the markets. Competition was very brisk, so brisk, in fact, that even he and his brother often cut each other's business throats. Senator Vest asked if he had knowledge of any combination in Chicago.

Mr. Armour had no connection with the business of the Chicago Armours.

In replying to questions regarding to prices paid by the witness for cattle, and the prices received for the various parts of the animal after it had been slaughtered and dressed it was found that the profit only figured up 60 cents per head, at a liberal estimate.

"Humph! Must be some mistake there," meditated Senator Vest.

"Do you think so?" asked Mr. Armour. "Now what do you think would be a fair profit on a steer of average weight and quality?"

None of the Senators would venture an opinion. Mr. Armour had a balance sheet with him, showing the profit, but he did not wish to expose his business. He would not give the total profit, but would let the reporters figure it out. The balance sheet showed, he said, that he had killed 144,863 head of cattle during the year 1887. They had netted him just 33.6 cents per head profit.

"The former testimony," said Mr. Vest, "shows that the price of meat to the consumers had not decreased during the time that cattle had depreciated in value. How did that come about and who gained the profit?"

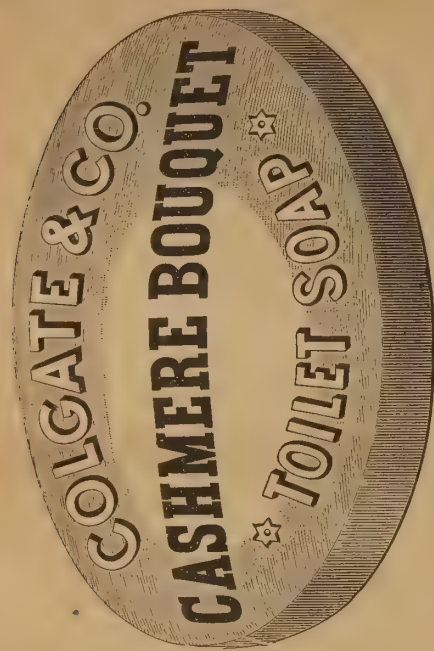
"The prices of meat to the consumer had decreased on all but choice cuts," said the witness. "The prices of those have been maintained because the demand for that kind of meat had increased; more people ate better meats."

BOGUS CLOVES.

The latest fraud in the line of wooden nutmegs and shoe-peg oats is in artificial cloves moulded from paste. Dr. Hanausek, in the *Apotheker Zeitung*, says that the resemblance of the spurious article to the real one is sufficiently close to allow of their being overlooked in the mass; their color approaches closely to that of the genuine, but when examined more closely ridges from the mould are perceptible, and there is an adherent dust that is yellow, consequently much lighter than the clove. In the mouth the spurious "cloves" soften to a gritty paste, coloring the saliva brown, and tasting slightly of cloves, with a remarkable "bark" flavor. When pulverized and the powder examined microscopically, a very minute proportion of clove tissue was found. The conclusion arrived at was that the spurious "cloves" are made from a paste consisting mainly of wheaten flour and ground oak bark, with a small proportion of genuine powdered clove, pressed into metal moulds and roasted.

EXECUTION BY ELECTRICITY.

Considerable excitement has been created by the attempt of the New York Legislature to change the method of executing criminals. The experiment of substituting life imprisonment for the death penalty has proved a failure. It has been found that wherever this has been done murder has increased. The slow processes of our criminal courts, the innumerable delays of the law, the appeals for executive clemency, and the mawkish sentimentality displayed towards murderers have all tended to bring the death penalty into contempt, and to materially remove the fears of the death penalty for murder, which would otherwise be so wholesome a restraint upon crime of this kind. The old method of hanging undoubtedly is objectionable because of the bungling manner in which that punishment is generally inflicted. The law should not be revengeful; the object of the death penalty is to punish as well as to prevent other crimes by the infliction of the law's certain decrees. The fact that the condemned man was not so tender in the infliction of death on his victim is no excuse for torturing the criminal. Execution by electricity has been well considered by scientists and the medical profession. It is claimed by many to be superior to hanging, and its use would certainly obviate the frequent spectacle of the condemned being slowly choked to death or the tortured victim of a broken rope. But the details of electrical execution have unfortunately been made recently to attract public attention by the squabbles of conflicting interests among the manufacturers of the apparatus. It seems that the apparatus selected by the expert of the commission appointed by the Legislature to devise the required instruments is the one employing the alternating current, the same as that used by the Sawyer-Mann Electric Light Company. Competitors of this company have used the fact that New York



State has chosen their dynamos as the instrument of death as an argument against the use of this company's method of lighting, and thus have frightened many into discarding this system in favor of some other, perhaps just as dangerous, but not officially so pronounced. This result has been followed by an injurious effect on the market value of the stock of the Sawyer-Mann Company. This is really the main cause of the stubborn and bitter fight over electrical execution. Newspaper articles of the bitterest kind, crimination and recrimination, charges of fraud, theft and burglary even have been made, and the public must not be surprised if more than one man's reputation is ruined and even if financial failure should follow. The real facts are somewhat difficult to arrive at, but we are having prepared by a competent writer an exhaustive article, which will show the acknowledged or proven facts in the case, and then the readers of the *AMERICAN ANALYST* can judge of the true merits of the controversy.

WHO MAKES THE PROFIT?

In the senatorial investigation of the Dressed Beef business in Kansas City, September 11, Mr. F. H. Brice a retail butcher, was called on to testify. Mr. Vest, to be frank with the witness, told Mr. Brice that Mr. Armour had testified the day before, that the butchers and retail men were the ones who made the great profit out of the meat business. He explained that the price of cattle had depreciated 40 per cent, in the last ten years, but that the price to the consumer of dressed beef was maintained. The cattlemen were losing money, and Mr. Armour had testified that the packer was making, only 33.6 cents profit per head. Who, then, was making this great profit? Mr. Brice was quite certain that it was not the butchers.

"Hold on" interrupted Mr. Vest, "how much do you pay the packer for your dressed meat?"

"About \$18.55 per carcass."

From the answers to succeeding questions it was found that, in selling the meat to the consumer, the butcher received \$25.40 per carcass.

"Pretty good profit, isn't it?" asked Senator Farwell.

"A profit of \$6.85 per head is fair," was the answer, "but our expenses are large. We don't make anything."

Senator Vest wanted to know if the packers had driven the butchers out of the slaughtering business, they had taken means to force the butchers to buy the dressed product?

"Yes," answered the witness, "by selling at a price so much cheaper than we can slaughter."

"That will do," said Mr. Vest.

Other butchers testified, Their evidence corroborated that of given by Mr. Brice.

DINNER MANNERS.

A FEW HINTS NOT REQUIRED BY THE READERS OF THE
"AMERICAN ANALYST."

"Woman first tempted man to eat, but he took to drink himself." The first of these propositions may be true, but it needs a qualifying clause. If she taught him to eat, she failed to teach him to do it properly. And again, if he took to drink of his own accord, he failed to appreciate the art of it, more especially when his drinking is done at the table. The best rules governing table etiquette are the simplest ones, but they should not attain that simplicity which comes to us from the time when forks were unknown and fingers were used instead. Those authorities that speak as a matter of taste, and not according to the edict of form, tell us, and emphasize their words by actions, that he who would eat well and eat appreciatively must so conduct himself that his manner neither gives offence to others at the table nor marks a reflection on his own lack of breeding. Bad manners at the table are especially characteristic of the summer resorts. It is not so much a matter of rush to get the best things that are on the table, or to assert one's desire to obtain what he has paid or expects to pay for, but the little and sometimes gross breaches of etiquette in the management of table utensils, and the edibles themselves. Vinegar and pepper don't look well, and certainly taste worse, to an appreciative palate on iced blue points or little necks. The sibilant sound from sipping soup may be sweet music to a voracious and ill-mannered summer boarder, but it is positive discord and agony to those of more sensitive ears and stomach. And when from an up-turned plate potage is drawn toward the holder of the spoon, with a sound suggestive of road scraping, the culmination of the spoon act is complete, although there may have been an intervening dig in the ribs to the off-hand guest, as a result of taking soup from the end of the spoon. Almost every one understands that fish is to be eaten with a fork only, but very few realize that fish tastes better when it is taken with the points of the fork held downward. It is rather distressing, in fact, to see a fork used as a shovel, and one might as well return to first principles, using the knife for the fork, and do what some one has graphically described as the sword-swallowing feat. But perhaps the greatest test of one's conversance with the better table etiquette is when he has to dispose of the roasts and entrees, while the manner in which vegetables are eaten is a test of only secondary importance. Meats are cut, not hacked or sawed. Vegetables, as a rule, are eaten from the fork, not from the spoon. Entrees, excepting when of too fleshy character, seldom require the use of a knife, much less of a spoon. It is considered quite the proper thing, in the eating of small game, to use the fingers instead of the knife or fork in disposing of the wings and other small parts, but it is a matter of fact that very few, even of our better looking women, appear to advantage while gnawing at bones; and besides, they are very apt to get grease on their faces, while very few, even of the best adapted complexions, can stand this test. Desserts, of course, require less careful handling, although too often is the spoon brought into requisition, while even the fingers sometimes play an inappropriate part. Demi-tasse only requires the use of a spoon in aiding the dissolving of the sugar, but many a hotel or other guest has been seen taking his coffee with the spoon, apparently attempting to make researches in his starboard ear. And when it comes to the finger bowl, the napkin is too often used as a towel, while the bowl itself sometimes serves the purposes, if not the form, of a diminutive wash bowl, and some extremists in the art of vulgarity have been known to use it as a cuspidore. As a finale, the toothpick comes

into play, and is used too often as a dentist's tool, without even the intervening excuse of an upheld napkin. These observations are not intended entirely as criticisms, but are made as cold-blooded statements of fact, not at all tempered by the disgust that their recollection incites. The use of wine at the table is a fine art. The proper variety or vintage to be taken with each succeeding course largely depends upon one's individual tastes, but there are certain established principles that should not be neglected. And the first principle is, no matter what may be the variety of the wine, take it by absorption, as it were, sip, but don't gulp it. Too much at a time of the best vintage in the world will drown out the choicest viands. As to the courses, Chablis goes well with oysters. Wine with any suspicion of sugar in the taste should be avoided as a snare and an abomination, alike injurious to taste and stomach. A good burgundy goes well with the fish, while the preceding course, la potage, or, in ordinary United States, soup, should have just a touch of claret. A soupcon of absinthe frappe stimulates the appetite at this point in the game, and serves, as well, to encourage one's conversational powers. But don't take too much of it, or the tongue will run away with the wit, and Parnassus become merely the sea level of the imagination. Here comes the critical period. What wine shall go with the meats? Sherry, says the average diner, while port has its advocates, and Tokay has a few to speak in its behalf. Claret is often used, when it is not taken with the soup; but claret, like the little girl with a curl on her forehead, is very good when it's good at all, but when it's bad it's horrid. If claret can spoil anything on the menu, that thing will be found under the head of rotis. Sherry is perhaps the best of all, but it should be dry and fruity, not musty, or flavored from the cork. Champagne, dry of course, but if possible, comes next, with either entrees or game, unless one is eating terrapin and then it should be sherry, or if that wine has been dashed over it in the chafing dish, take the terrapin straight. Desserts should be their own best excuse for being, and, when such, require no wine, as a good wine needs no bush. But champagne can be well run over into this course without going far astray, although just here another touch of absinthe comes in handily. Liqueurs follow cafe noir, with Benedictine a'leau ranking as favorite, Chartreuse second, and annisette trailing. Then the cigars, and with them that delightful sensation that comes only after a well ordered, well served and properly eaten dinner, where there has been no gaucherie or porcinity, and where digestion has waited on appetite and health on both. How many a good dinner has been spoiled in the eating of it. How much better dinners we could have—even without the wine—if there were a more general observance of the simplest forms and rules of taste, not gastronomic, but personal.

INSOMNIA.

SOME HINTS HOW TO INDUCE PEACEFUL SLEEP.

If we may judge by the appeals for help that come to us, this trouble is rapidly increasing in this country. "I cannot sleep," says one; "the doctors give me opiates, but these are becoming ineffective; I shall die ere long if I cannot obtain relief." The causes are widely varied, we suppose, but the effect is in every case the same. A merchant of good character and irreproachable habits writes to us: "What will cure sleeplessness? I use no stimulants, am a very moderate eater, and never eat anything after six o'clock in the evening. I have consulted the doctors, but they all give me opiates which I do not wish to use." Our table is covered with letters of this character, although some of them are more intense in their tone and show a marked excitement of the whole nervous system. The difficulty does not always come, as most of the writers seem to believe, from bodily ailment or infirmity. In fact, the trouble at the outset is far more frequently in the mind. Mental restlessness keeps the eyes from closing, and

denies to the body that repose it would otherwise enjoy. It may not have its origin in any serious trouble or great anxiety, but undue mental excitement grows by indulgence until it becomes a fixed habit difficult to overcome. The idea that sleep is not coming at once to the pillow will keep a man of a fine nervous temperament toying on his bed for hours, when if he only thought he was to find rest as he lay down he would drop into dreamland without any delay. This mental activity is the first and most difficult thing to cure. When the nerves no longer brace themselves against the coming drowsiness the recovery is not far to seek. Whatever tends to quicken thought, to excite the emotions, to stir up the quivering brain to fresh activity, should therefore carefully be avoided. Novel reading at night, games of skill requiring study, or games like whist taxing the attention and memory, ought not to be indulged in during the evening by those who find it difficult to sleep. Above all, the conscience should be at rest. We are not preaching a sermon, but prescribing an antidote, when we say that no thoughtful man who has in his heart a controversy with his Maker can lie down to calm repose. To have quiet in the brain, there must be peace in the soul. We know a man of great intellectual power who has often declared to us that he cannot rest until he has been on his knees, and in his own language "made it all right" between himself and the One who "giveth His beloved sleep." But the body is often an ally to the mind in its restlessness, and sometimes is the provoking cause of the whole disturbance. Some years ago we wrote for this column an essay on "Eating and Sleeping" which went the rounds of the whole world. Two at least of our readers had large editions of it printed in pamphlet form, at their own expense, and one who had been greatly profited by it sent out 10,000 copies for gratuitous distribution. In that article we showed, as we think conclusively, that going to bed with a well-filled stomach is the essential prerequisite of refreshing slumber. The cautions so often reiterated in old medical journals against "late suppers" were directed chiefly to the bibulous habits of those early times. When at every late feast the guests not unselfishly drank themselves under the table, or needed strong assistance to reach their couch, the canon against such indulgence was not untimely. Nature and common sense teach us that a full stomach is essential to quiet repose. Every man who has found it difficult to keep awake after a hearty dinner has answered the problem for himself. There are few animals that can be trained to rest until after they are fed. Man, as he comes into the world, presents a condition it would be well for him to follow in all his after life. The sweetest minstrel ever sent out of Paradise cannot sing a new-born child to sleep on an empty stomach. We have known reckless nurses to give the little one a dose of paregoric or soothing syrup in place of its cup of milk, when it was too much trouble to get the latter, but this is the one alternative. The little stomach of the sleeping child, as it becomes gradually empty, folds on itself in plaits; two of these make it restless; three will open its eyes, but by careful soothing these may be closed again; four plaits, and the charm is broken; there is no more sleep in that household until that child has been fed! It seems to us so strange that with this example before their eyes full-grown men are so slow to learn the lesson. The farmer does it for his pigs, who would squeal all night if they were not fed at the last moment, and the groom knows that his horse will paw in his stall until he has had his meal. But when he wishes to sleep himself he never seems to think of it. To sleep, the fullness of the blood must leave the head; to digest the eaten food the blood must come to the stomach. Thus, sleep and digestion are natural allies; one helps the other. Man, by long practice, will train himself to sleep on an empty stomach, but it is more the sleep of exhaustion than the sleep of refreshment. He wakes up after such a troubled sleep feeling utterly miserable until he has had a cup of coffee or some other stimulant, and he has so injured the tone of his stomach that he has little appetite for break-

fast. Whereas one who allows himself to sleep after a comfortable meal awakes strengthened, and his appetite has been quickened by that preceding indulgence. The difficulty in recovery comes from the fact that we are such creatures of our habits, it is impossible to break away from them without persistent effort. In this case the man who has eaten nothing, like our correspondent, after six o'clock, and retires at ten or eleven, takes to his bed an empty stomach upon which the action of the gastric juices make him uncomfortable all the night. If he proposes to try our experiment, he will sit down and eat a tolerably hearty meal. He is unaccustomed to this at that hour, and has a sense of discomfort with it. He may try it once or twice, or even longer, and then he gives it up, satisfied that for him it is a failure. The true course is to begin with just one or two mouthfuls the last thing before going to bed. And this should be light food easily digested. No cake nor pastry should be tolerated. One mouthful of cold roast beef, cold lamb, cold chicken and a little crust of bread will do to begin with; or, what is better yet, a spoonful or two of Borden's condensed milk (not the sweetened that comes in cans) in three times as much warm water. Into this cut half a pared peach and two or three little squares of bread, the whole to be one-fourth or one-sixth of what would be a light lunch. Increase this very gradually, until at the end of a month or six weeks the patient may indulge in a bowl of milk, two peaches, with half a hard roll or a crust of home-made bread. When peaches are gone take baked apples with the milk till strawberries come, and eat the latter till peaches return again. This is the secret of our own health and vitality. We often work until after midnight, but eating the comfortable meal is the last thing we do every night of the year. This is not an untried experiment, or one depending on the testimony of a single witness. We have a record of several hundred persons who have tried the remedy we suggest, and it has failed in no single instance where the initial steps were taken with caution and judgment. It is nature's own suggestion, and sleep after eating is as natural as grass after rain in the desert fields of California.

BEET SUGAR.

THE PRESENT STATUS OF THE AUSTRIAN SUGAR INDUSTRY.

Our readers are aware the beet sugar industry has attained great perfection in Austria, hence we trust that the following facts, gleaned in part from the "Commercial Archives," in Germany, etc., will prove of interest. Austro-Hungarian beet factories are of several kinds, the difference in the working being due to their geographical location; in some cases the production is only for domestic consumption, in others for exportation to England, Holland, etc. A great number of the factories under consideration are stock companies, where the owners of the stock do not supply the beets. Some factories are worked by a system of small stockholders, where no one owns more than two shares, valued at thirty dollars each, and the capital is hundreds of thousands of dollars. In such cases there is great difficulty in bringing about harmony between the numerous stockholders; the interests of the farmer and manufacturer result in discord. On the other hand, in Germany, the stockholder and farmer being one and the same individual soon appreciates that it is to his interest to cultivate rich beets. For complicated reasons, too long to discuss in this writing, the co-operative system has not met with the success in Austria it has in Germany. Nevertheless those factories working on important estates have been very profitable to all interested. The existing system of taxation is said to be one of the very best in Europe, and the prospects for a constantly increasing production never looked more favorable than at present. The proof of this assertion is the fact that many new factories are building in Hungary. The refining business, which has not had much encourage-

ment hitherto, has now a promising future; this will evidently result in an important export to the Orient. Respecting the system of taxation doing so much good, we would say that it is upon sugar, only when it is consumed, with direct bounty for exportation.

It is evident that the manufacturer can, under these circumstances, dispose of a greater capital, and ameliorate the farming condition of the estate. The cost of manufacturing sugar in Austria-Hungary is very low, labor may be had in abundance, and the wages are small. A curious fact is that notwithstanding the success of the sugar industry in the country, the value of lands is less than in France or Germany. In Bohemia an acre of ground suitable for beet cultivation is worth \$250, and only \$140 in Hungary. Women and children work in the fields for 8 to 14 cents per day, while the hands at the factory receive 24 to 32 cents. On a model Bohemian farm the cost of working land cultivated in beets was \$38.40 per acre; this includes working of the soil, chemical fertilizer (saltpetre), beet seed, thinning out, interest of capital, etc. The leaves and their value are not considered—the beets thus cost \$3.20 per ton (including the interest on value of land). The cost of manufacturing sugar at these factories was \$2.40 per ton of roots worked, and in some special cases \$1.80 when 100 lbs. sugar were extracted from 900 lbs. beets. The cost per pound would be about two cents. Sugar for the home consumption is made in 56 factories, of which 11 are refineries; of the 45 remaining, about one-half refine the sugar made in the factory and the other half refine sugar purchased from outside factories. Of late years the exportation of refined sugar from Austria has become very important. Hamburg, as a shipping centre, appears to offer many advantages. Trieste is also one of the important shipping ports. It must be said respecting the latter that the French have of late years offered considerable competition from Marseilles.—*The Sugar Beet.*

GIANT DIAMOND.—The Giant diamond, lately discovered in Cape Colony, and now at the Paris Exposition, weighs 180 carats and is valued at \$4,000,000. It is kept in a glass case by itself and guardians stand around it all day. At night it is placed in a big safe, which is similarly guarded all night. It is said to be of the first water and as pure as the famous Regent in the French crown diamonds.

HEIGHT OF SEA WAVES.—Carefully repeated experiments made by an experienced English navigator at Santander, on the north coast of Spain, showed the crest of the sea waves in a prolonged and heavy gale of wind to be 42 feet high, and allowing the same for the depth between the waves would make a height 84 feet from crest to base. The length from crest to crest was found to be 386 feet. Other estimates of the waves in the South Atlantic during great storms give a height of 50 feet for the crests and 400 feet for length. In the North Sea the height of crest seldom exceeds 10 feet and the length 150 feet.

MANIFOLD PAPER.—Brackelsberg's multiplying paper consists of sheets of paper, each one supplied with a coloring layer, whose principal element is a violet aniline methyl. An oiled leaf serves as a hard, smooth under layer. Place a sheet of the copy paper on this, then a sheet of writing paper, and write with a hard lead pencil. The back of the writing paper will give a negative of the writing in high color. Wet the copy sheet thoroughly, and from it twenty or more copies can be made, which will not roll nor show a gelatinous coating. Embroidery and compass sawing patterns are finely rendered in this way.

A PHOTOGRAPHIC PHONOGRAPH.—M. Leone Esquive, a Mexican, it is stated has perfected a marvellous invention in electricity and photography. By speaking in a photophone transmitter, which consists of a highly polished diaphragm, reflecting a ray of light, this ray of light is set into vibrations, and a photograph is made of it on a travelling band of sensitized paper. Now comes the wonderful part. If the image of this photographic tracing is projected by means of an electric arc or oxyhydrogen light upon a selenium receiver, the original speech is then heard. It is evident that there is no limit to the development of this peculiar combination of methods. This is very important—if true.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

September.

MEATS.—Beef, mutton, lamb, veal, ham, kidneys, liver, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Bass, blackfish, bluefish, clams, cod, crabs, eels, flounder, halibut, herring, lobster, mackerel, muskels, porgie, prawn, rockfish, salmon, trout, sea bass, sturgeon, turtle, white fish, whiting.

VEGETABLES.—Beets, beans, cabbage, carrots, cauliflower, corn, cucumbers, egg-plant, garlic, lettuce, onions, parsley, parsnips, potatoes, radishes, rhubarb, savoy, shallots, spinach, squash, tomatoes, turnips.

FRUITS.—Apples, bananas, blackberries, gooseberries, huckleberries, grapes, melons, oranges, peaches, pears, pineapples, plums, raspberries, currants.

PRACTICAL RECIPES.

CURRIED EGGS.—Press one pint of cooked peas through a puree sieve; add sufficient cream to make the consistency of a sauce; add one teaspoonful of curry powder, a half teaspoonful of salt, and stir the whole over the fire until thoroughly heated. This is best done in a double boiler. Have ready six hard-boiled eggs, cut them in smooth slices, lay them on a heated dish, and pour the sauce over them. Serve with squares of bread, toasted or fried.

BROILED OYSTERS WITH CRUMBS.—Take one pint of oysters and broil carefully. Have ready one half pint of crumbs of bread (fine) which have been prepared in the following way: Put a teaspoonful of butter into a saucepan which has been rubbed with onion; pour in crumbs and fry brown. Squeeze over the crumbs the juice of two lemons and heat again. Now add a teaspoonful of very finely chopped Chili sauce. Mix these with the broiled oysters, and serve at once.

SOUTHERN JOHNNY CAKE.—To one quart corn meal add one teaspoonful of salt and pour over it one pint of boiling water in which one teaspoonful of lard has been melted. Stir well, spread on a board of hard wood, shape with the hand and bake before an open fire, until it is brown; turn over to brown the other side; eat hot.

PARSNIP CAKES.—Boil some parsnips till quite tender then mash them with some butter. Beat up one egg and add thereto a few bread crumbs. Mingle these together with the mashed parsnips, adding pepper and salt to taste. Form the mixture into cakes and fry in boiling lard. The number of eggs must be regulated to suit the quantity of parsnips.

CUSTARD CAKE.—One cupful of sugar with one tablespoonful of butter rubbed in; two tablespoonfuls of sweet milk, one cupful of flour, before sifting, two teaspoonfuls of Horsford's baking powder put in flour, and two eggs, beaten separately, adding whites last thing before baking. Bake in layer tins.

Custard Part.—One cupful of milk just to a boil, one half cupful of sugar, one tablespoonful of butter, one level tablespoonful of corn starch, and yolks of two eggs, (one will do.) Beat and stir sugar, eggs, and starch into boiling milk. Flavor with lemon. When cool spread between layers.

TO PRESERVE PARSLEY.—Take fresh gathered sprigs, pick and wash them clear. Set on a stewpan half full of water, put a little salt in it, boil and skim it clean, and then put in the parsley. Let it boil a few minutes, then take it out, lay it on a sieve before the fire, that it may be dried as quickly as possible. Put it away in a tin box, keep it in a dry place and when wanted for use,

lay it in a basin and cover it with warm water a few minutes before using.

SWEETBREADS.—Clean, wash and parboil two sweetbreads. Throw them into cold water for a few minutes. Separate them into small pieces by removing all the fibrous matter. Make a sauce as follows. To a tablespoonful of hot melted butter add a good tablespoonful and a half of flour, cook for a few minutes, stirring it constantly. When quite smooth add sufficient cream or milk to make it thin enough—the yolks of two eggs may be added. Put in the sweetbreads, season with salt and pepper and serve at once when they are taken from the fire.

PINE PILLOWS.

A SIMPLE RELIEF FOR LUNG TROUBLES.

It has long been known that pine needle pillows would alleviate persons afflicted with lung troubles, and a Florida editor relates an incident in support of the fact, as follows: During a visit to the home of a most estimable lady living on Indian River, this editor was told of a discovery that had been made which may prove a boon to sufferers from lung or bronchial troubles. This lady having heard that there was peculiar virtue in a pillow made from pine straw, and having none of that material at hand, made one from fine, soft, pine shavings, and had the pleasure of noting immediate benefit. Soon all the members of the household had pine shavings pillows, and it was noticed that all coughs, asthmatic or bronchial troubles abated at once after sleeping a few nights on these pillows. An invalid suffering with lung trouble derived much benefit from sleeping upon a mattress made from pine shavings. The material is cheap and makes a very pleasant and comfortable mattress, the odor of the pine permeating the entire room and absorbing or dispelling all unpleasant odors.

WESTERN BEEF CATTLE.

A MONUMENT OF FAILURE ERECTED TO THE MEMORY OF
SPARKS.

The following article from the *N. Y. Tribune* sets forth, in plain language the cause of the existing low prices of beef cattle:

"Where are the 'Cattle-Kings' and the 'Cattle-Barons' we used to hear so much about? Bankrupt, or on the 'ragged edge' of bankruptcy. There are fortunate exceptions, of course, but these exceptions have been very fortunate indeed if they 'got out' in good time, extraordinarily fortunate if they had 'stayed in' till now, so much so that in all the great grazing region of the Territories and the new States they may almost be counted on the fingers. The causes are not far to seek.

"About fourteen years ago, a few adventurous spirits were struck by the facts that young cattle were cheap in Texas, beef dear in Chicago, and the richest natural grasses in the world to be had for the asking, or without so much as asking, in every hill and valley of the vast Rocky Mountain region. They embarked all their energy, their capital, when they had it, and when they had not then all the money they could borrow, in buying two and three-year old steers in Texas for \$16 to \$18 a head. In the spring they drove them north by the broad and well-watered trail that once fed the vast herds of buffalo in their migrations. For two winters and summers the young cattle were allowed to roam the unfenced ranges of Colorado, of Wyoming of Dakota, or Montana. The expense, confined to the spring and fall round-up, was a mere song. At the end of the second summer, or earlier in favored places, the cattle, then in their fifth or sixth year, and 'rolling fat' were driven perhaps a hundred or even two hundred miles to the railway, shipped to Chicago, and sold for from \$55 to \$65 a head. Great fortunes were rapidly made. The profits were reinvested, more money

was borrowed, often at enormous interest, and new men in great numbers, with new capital, made haste to embark in so lucrative a business. In the course of a few years the ranges were overstocked, the driving trail was eaten out, the price of young cattle rose in Texas, and the price of beef fell in Chicago. Then the cattlemen took to breeding on the ranges. A very few hard winters sufficed to show that there was no money in this; in short, nothing but disaster. The young calves and the breeding cows perished by thousands in every bad storm, and when the snows melted after every severe winter their bones were found whitening the plains. Then the prudent speculator sold out, fortunate if he could do so before others made the discovery which he had, in the language of the ranch, paid his money to learn. But the more enterprising and industrious of the ranchmen thought they saw the way to mend this. They were in the business not to sell but to stay. They would fence the unclaimed desert land, fertilize it with the waste waters of the mountain streams, protect and feed their cows and calves in the sheltered valleys near the home ranch, and let the hardy steers go on the range as before. Just then came Sparks, with his sham policy, backed by a sham public opinion. These industrious and enterprising cattlegrowers, who were merely repeating in those arid mountain wastes the history of American progress from the Merrimac to the Missouri, were branded as 'thieves,' as 'cattle-thieves' and 'land thieves,' their fences were cut, their land entries were denounced as fraudulent, a small army of detectives was set upon them, and, upon the secret reports of these men, mostly without knowledge and without character, the whole land system was arrested, in disregard of the law, by the officer appointed to enforce the law. The injury was immediate and enormous. The ruin of the cattle-growers was complete. And who was the gainer? No one. Not the Government, even granting that the Government can ever profit by injuring the people, for the Government has lost the sale of millions of acres of desert in the remote mountain region at the very price it was glad to take for the rich garden soil of Illinois and Iowa, in the very heart of the land. Not the citizen, the mythical 'actual settler' of the Sparks vision, for it may be doubted if to this day he has actually settled upon a single acre of the land thus 'redeemed for the people.' Strangely enough, while all this outcry was being made over the 'preservation' of the dry and worthless desert, not a word was said nor a step taken toward preserving the one thing of value in the whole region—the water. Anybody might take that—and did. Under the Territorial laws, men, often mere speculators, have been allowed to 'pick the eyes out of the country' unmolested. But now that the subject of irrigation is at last attracting proper attention, there will soon be an end of this. Finally, during the last fifteen years the processes of breeding and feeding beef cattle in all the great and populous alluvial regions tributary to Chicago have so improved that, with favored exceptions, the Western ranges can no longer compete with the farmers of Illinois, Iowa, Wisconsin and Minnesota; for example, in producing beef for the table. Thus the poor discredited 'cattle-king,' buffeted by fortune at every turn, is at last forced to sell his 'Western rangers' to the cannery. These are three or four in number. Practically that means one. The price they allow him nets the poor 'cattle-king' about \$20 a head for an ordinary steer. The disadvantage of owning a thing that only one man wants to buy all men know."

TOUGHNESS OF PINE.—Evidences of the durability of yellow pine for flooring occasionally come to notice, says the *Northwestern Lumberman*. One is an instance in which a saw manufacturing concern five years ago put a long leaf pine floor in its factory. It is as sound now as when put down. The manager of the concern declares that if white pine had been used it would not have lasted more than a year, on account of the wear of constantly rolling saws over it, the teeth cutting into the soft wood.

USEFUL, IF TRUE.—Some one has made the discovery, or rather makes the assertion, that a fly always walks upward. Put a fly on a window, and up he goes toward the top; he can't be made to walk downward. So an inventor has made a screen divided in half. The upper part laps over the lower, with an inch space between. Well, as soon as a fly lights on the screen, he proceeds to travel upward, and thus walks straight out-doors. By this means a room can be quickly cleared of flies.

BUSINESS NOTES.

REMOVAL

John H. Woodbury, the noted Dermatologist of 210 W. 42d Street, New York City, has removed to the brownstone front building 125 W. 42d Street, which he has leased for a term of years.

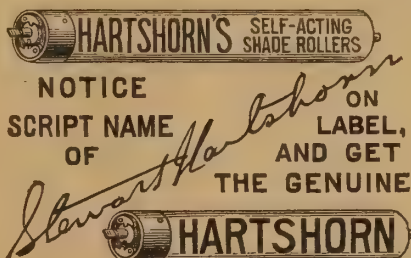
COD-LIVER OIL.

The great therapeutic value of cod-liver oil in phthisis (consumption), scrofulosis, rheumatism and similar disorders, is recognized by all physicians. The unpleasantness of the improperly made oils that abound has deterred many from realizing its benefits, and stimulated the production of a host of emulsions as substitutes claiming palatability. This claim is not well founded for "emulsions are thick, slow running, sticky preparations which are swallowed with difficulty, and leave an unpleasant taste behind them." Besides, the indiscriminate continued use of the salts of lime and soda in emulsions, is injudicious if not positively pernicious. The benefits to be expected from cod-liver oil, can be readily realized by the selection of Peter Moller's Norwegian. There is nothing unpleasant about this clean, pure oil, therefore no necessity to disguise its taste. It has taken nineteen gold medals at the great exhibitions of the

world, establishing its superiority over all others. It has claims which entitle it to preference, and insure the effects that can be expected only from a pure and perfect product. It is not offensive either in taste or smell, but sweet and agreeable. Its administration is always followed by satisfactory results. It is more easily assimilated, and more nutritious than other oils. It is noted for its perfect digestibility, and perfect limpidity. It costs the consumer no more than the poorer qualities abounding in the stores. All well-stocked drug stores have it.

HUMAN HEALTH.

Human health can only be maintained when the rules of life are strictly obeyed. Man's system is like a town, to be healthy it must be well drained. No one would wish to live in a town where the sewers are always clogged. Our system is most beautifully fitted by nature to drain itself of all waste and effete matter. This drainage is frequently interfered with by careless habits and when it becomes clogged illness is the result. Beecham's pills, which have been in popular use in Europe for many years are specially adapted in a safe, gentle manner to keep human drainage in perfect order.



Fine Table Wines
From our Celebrated Orleans Vineyard.

Grand Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alays the thirst, aids digestion, and relieves lassitude.

"Dr. T. C. Smith, Charlotte, N. C., says:

"An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop."

Dr. J. S. Niles, Pownal, Vt., says:

"Excellent as a tonic, and refreshing as a substitute for lemonade."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,
PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

WHOOPING COUGH CURED

Or Prevented by Page's Vaporizer and Cresolene.



We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for Whooping Cough, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.

THE GREAT AMERICAN TEA COMPANY
BETTER NEWS TO LADIES
and All Lovers of Fine Teas
THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.
A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.
Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P.O. Box 287.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the *AMERICAN ANALYST* has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

THE
VIBURNUM COMPOUND
OF
DR. HAYDEN,
THE STANDARD IN
FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Leading Numbers

14,048,128
130, 135,
333, 161.

— For sale by all stationers. —

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.

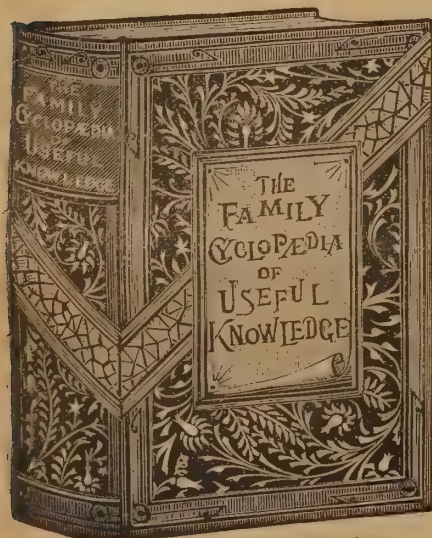
WORKS: CAMDEN, N. J.



A VALUABLE BOOK FOR NOTHING.

The *AMERICAN ANALYST* will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



THE WORLD'S MEDICINE.

From the earliest days of medicinal science no antidote has achieved such a reputation as

BEECHAM'S PILLS.

Their fame has reached the uttermost parts of the earth; their curative power is universally acknowledged to a degree unprecedented in the annals of physical research; and it is echoed from shore to shore that for Bilious and Nervous Disorders, Indigestion with its dreaded allies, and for assisting Nature in her wondrous functions, they are

WORTH A GUINEA A BOX.

BEECHAM'S PILLS—the wonderful English Medicine—are a safe and speedy cure for **Weak Stomach, Impaired Digestion, Sick Headache, Constipation, Disordered Liver, etc.** Sold by all druggists in the United States at 25 cents a box, or will be mailed on receipt of price by B. F. ALLEN & Co., 365 Canal Street, New York, sole agents for the United States. Prepared only by THOS. BEECHAM, St. Helens, Lancashire, England.

In ordering mention THE AMERICAN ANALYST.

Four Books in One! No Household is Complete Without It!

THE COMPLETE BOOK OF HOME AMUSEMENTS.



What most lives need is *more sunshine*. Let us banish care, have a good time, enjoy ourselves while we may. How much happier—how much better off—are those homes wherein the father and mother, and even the gray-haired grandparents, join with the children after tea in a merry game or other amusement, than those wherein reticence and reserve and chilly demeanor prevail. "But," you say, "what shall we do? We read until we are tired; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful book it is. It contains 64 large 3-column quarto pages, neatly bound in handsome covers, and is filled to the brim with every conceivable thing for the enlightenment of home. It is in reality *four books in one*, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It is a complete text-book for Public and Private Entertainments, Private Theatricals, Parlor Exhibitions, Social Gatherings, School Exhibitions and Evenings at Home. It is a book for old and young, grave and gay—a veritable storehouse of good things for all. It contains a number of ACTING CHARADES, with full directions how to perform them. It gives some very excellent PARLOR DRAMAS, easily acted yet very amusing. It tells all about SHADOW PANTOMIMES, and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful TABLEAU VIVANTS, and gives full and explicit directions for performing them. In it are so many amusing PARLOR GAMES that we have not attempted to count them, but we think we have almost everything, new and old, that was ever thought of in the game line. Then we come to a lot of wonderful ILLUSTRATED PUZZLES—tantalizing, perplexing, apparently intricate, but so easy when you turn to the proper place and learn the answers. Here also is a savory dish of RIDDLES, ENIGMAS, CHARADES, ETC.—a nice large lot of them. How young and old heads will puzzle and study over them, and how proud you will feel when you have solved one correctly. As to CONUNDRUMS, there are nearly a bushel of them, some so funny you will want to hold your sides with laughter, and what fun it will be for one of the company to read the questions and see who can guess the answers! A considerable portion of the book is allotted to PARLOR MAGIC, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are a lot of amusing and instructive CHEMICAL EXPERIMENTS, showing how the combination and manipulation of the simplest agents will produce the most surprising results. Following these are a number of excellent DIALOGUES, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest RECITATIONS, dramatic, pathetic, sentimental, and comic, ever written. It is handsomely illustrated, and is indeed a splendid book. THE COMPLETE BOOK OF HOME AMUSEMENTS will be sent by mail, post paid, to any address, upon receipt of only Twenty-five Cents.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS

FREE.

To any one who will send us **One New Subscriber** to the AMERICAN ANALYST for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the AMERICAN ANALYST. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.

Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure
state of the blood. An antidote for MALARIA.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

Sura Cura



Will be found invaluable for
Cholera Infantum
and all Summer Complaints,
children or adults. *It's not a*
medicine but will be retained
& sustain life when everything
else fails. 4 sizes 35 cts. up.



FACIAL BLEMISHES
The largest Establishment in the World for
the treatment of Hair and Scalp, Eczema,
Moles, Warts, Superfluous Hair, Birthmarks,
Moth, Freckles, Wrinkles, Red Nose, Red
Veins, Oily Skin, Acne, Pimples, Blackheads,
Barber's Itch, Scars, Pitting, Powder Marks,
Bleaching, Facial Development, etc. Send
10 cts. for 128-page book on all skin im-
perfections and their treatment.

JOHN H. WOODBURY, Dermatologist,
135 West 42d Street, NEW YORK CITY, N.Y.
P. S.—Use Woodbury's Facial Soap for the skin and
scalp; for sale at all druggists, or by mail, 50 cents.

Crayon Portraits.

MRS. F. M. G. PENDER,

STUDIO:

47 WEST 22d STREET, NEW YORK.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill
Vineyard Company and have found them excellent. The Sauterne is
superb—much better than most of the imported that costs five times
as much. The same is true of the Claret and the Riesling. The time
is soon coming when Americans will know enough to appreciate the
wines of their own country. Most people judge of wines, not by what
is in, but by what is on the bottle. They taste the label, and then they
are not positive that they like it until they know the cost. If you
could only manage to have the Edge Hill Wines imported, they would
taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

THE AMERICAN ANALYST.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly inter-
esting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

GABRIEL'S MARRIAGE,

By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,

By ETTA W. PIERCE.

THE RIGHTFUL HEIR,

By M. T. CALDOR.

THE DOUBLE HOUSE,

By MISS MULOCK.

TWICE SAVED,

By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most
famous names in literature, both American and European. Each of the ten novels is extremely interesting,
though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and
exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book,
profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the
book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new
subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera
Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands,
and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it.

Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results
when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine
in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive
value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is
prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree
with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION,** NEW YORK.

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are wide-spreading.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose curious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,

19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM,

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition:	ALBUMINOIDS,.....	19 Parts.
	MILK SUGAR,.....	64 "
	FAT,.....	10 "
	MINERAL MATTER,.....	3 "
	CHLORIDE of SODIUM added,.....	1/2 "
	PHOSPHATES of LIME added,.....	1/2 "
	MOISTURE,.....	3 "

SEND FOR SAMPLE and compare it with every other food used in artificial feeding of Infants.

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. A SEDATIVE, NERVE AND BRAIN FOOD.

(GRANULAR EFFERVESCENT.)

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.**

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 25
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

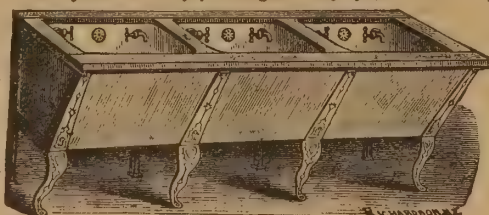
19 Park Place, New York.

STEWART CERAMIC CO.,**312 PEARL ST., Cor. Peck Slip, NEW YORK.**

Sole Manufacturers under Morahan's Patents of

SOLID WHITE CROCKERY STATIONARY WASH TUBS

Warranted by us for thirty years against injury (violence excepted).

CANNOT LEAK.**VERY STRONG.**

This cut shows three Tubs set up with galvanized iron stands and heavy ash frame firmly secured on top.

SMOOTH GLAZED SURFACES. ALWAYS CLEAN.

The only solid white crockery Washtub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent," stamped on every tub. Washboard and Soapcup moulded in every set.

SOLID WHITE CROCKERY SINKS

Made of same material as the Tubs and fully as strong.

Send for Illustrations and Price Lists.

Send for Illustrations and Price Lists.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,**UNION STOCK YARDS,****CHICAGO, ILLS.**

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-Carb. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

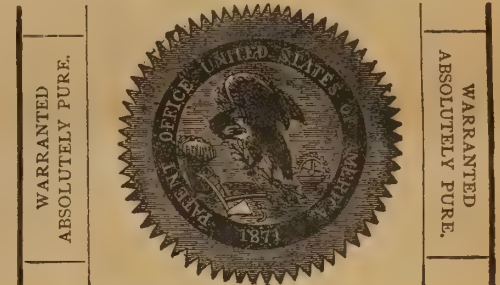
ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

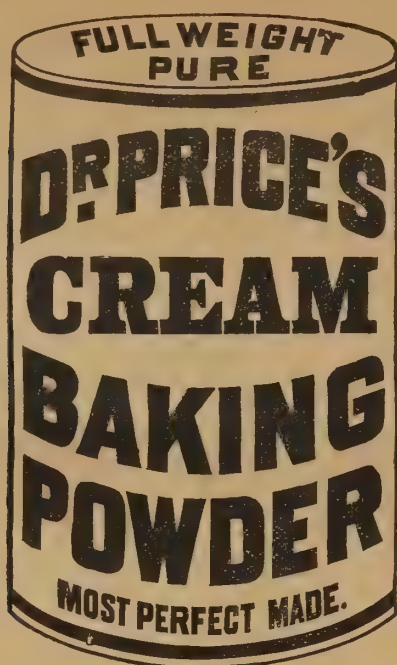
SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.



Used by the United States Government. Endorsed by the heads of the Great Universities and Public Food Analysts, as the Strongest, Purest and most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Dr. Price's Delicious Flavoring Extracts, Vanilla, Lemon, Orange, Almond, Rose, etc., do not contain Poisonous Oils or Chemicals.

PRICE BAKING POWDER CO., New York. Chicago. St. Louis.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation, physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS, FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.



The Most Reliable Food
For Infants & Invalids.
Not a medicine, but a specially
prepared Food, adapted to the
weakest stomach. 4 sizes cans.
Pamphlet free. Woolrich & Co.
(on every label). Palmer, Mass.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to
subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endor-
sed by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 39.

NEW YORK, THURSDAY, SEPTEMBER 26, 1889.

WHOLE No. 135.

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.

Single Copies, - - - - 5 cents.

Subscriptions to foreign countries, - \$1.50.

Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.

Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.

T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to

THE AMERICAN ANALYST,

19 Park Place, New York.

CONTENTS.

Cigarette Abomination.....	458
Domestic Dietetics.....	460
Edison's Inventions.....	459
Editorials.....	457
Undoing Vicious Legislation; Death by Electricity; Christian Science; A Health Exhibition; The John- stown Calamity.	
Science in the Boudoir.....	458
Ups and Downs, Indoors.....	459

UNDOING VICIOUS LEGISLATION.

A Chicago despatch of September 13, relates the following outcome of a suit at law that had been previously alluded to in the AMERICAN ANALYST: "An interesting decision was rendered by Judge Blodgett this morning. Gustavus F. Swift of the packing firm of Swift & Co., asked for damages in the sum of \$7,500 against John B. Sutphin, the Mayor of Duluth, Minn., alleging failure of contract on the part of the Mayor. Some time ago the plaintiff and defendant entered into partnership whereby the defendant was to receive dressed meats from the plaintiff and sell on commission and a salary of \$40 per week. Much meat was shipped to the Mayor, but the latter, being informed of the law in Minnesota, which expressly stipulates that all meats sold in the State must be inspected at least twenty-four hours before slaughter, refused to handle the shipments, alleging his fear of the law. The claim was set up because of the loss accruing to the plaintiff. Judge Blodgett held that the law was unconstitutional, as the meats had already been inspected here in Chicago before slaughter. Were such a law to be upheld Minnesota would be practically shut off from all shipments of dressed meats. He awarded damages to the plaintiff in the sum prayed for."

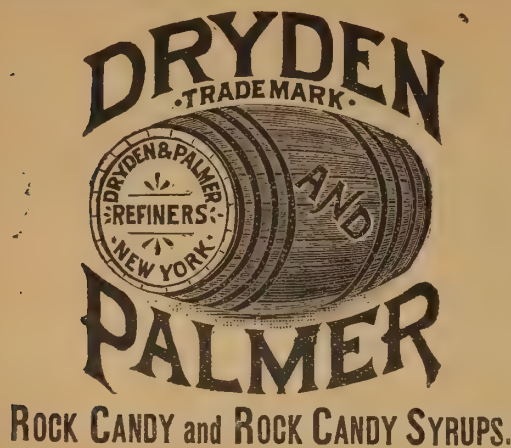
DEATH BY ELECTRICITY.

In all the talk about execution by electricity there has been entirely too much attempt at high science, and too little common sense. Self-styled experts and those wrongly called by others, have been called upon to answer questions which the questioners themselves did not understand, and which had very little, if any, bearing, either practically or theoretically, upon the main subject—which is, "Can criminals be put to death by electricity more surely and rapidly than by hanging?" The questions and their answers, and the manner of those who put and give them, remind one of the Scotchman's definition of metaphysics: "When two men are talkin' thegither, an' him that's listenin' dinna ken what the other means, an' him that's talkin' dinna ken what he means himsel', that's metaphysics." There was a time when interested parties filled the daily papers with quasi-scientific articles upon the deadly effects of the electric current. There was hardly a day when there was not a report, more or less harrowing in its details, of the death of or injury to some man or brute, by stepping upon something iron in the neighborhood of electric wires. Since the gas companies or their stockholders in so many instances became interested in electric lighting stock, these paragraphs have partially disappeared. The same thing took place when gas was introduced for lighting, just as when the steam engine was first used or expected to be used for hauling cars upon tramways. The plain English of it is, that if you take a current that has very high tension (corresponding to pressure per square inch in a water pipe) but little volume (corresponding to amount of flow per minute in a water pipe) death need not necessarily ensue, no matter how high the tension in volts. If the current has an immense volume and but little tension or intensity, it need not necessarily be fatal. If the resistance of the "subject" be very high by reason of imperfect contact between the poles or electrodes, or whatever they may be called, a current may have both high tension as measured in volts, and great quantity as measured in amperes, and the ohms of resistance of the subject may save him from death or even from any great injury or pain. But the resistance of the "subject" may be rendered very slight by having proper contacts. The fact that where no special attempt was made to give good contact, many persons have been subjected to the action of part of a current of very high tension or of very great quantity, or even of both, does not prove anything one way or the other about the death question. It is a fact that rifle balls will kill if properly shot and aimed, and the human target does not wear a coat of mail or other resistance. It is a fact that a heavy weight will crush a man to death if properly applied. And it is a fact that a cannon ball, which has both velocity and weight, will kill. In the hands of the unskilled a cannon may not be able to do much damage to anything or any one, except, perhaps, those who are mismanaging it. But that proves nothing one way or the other about the value of

cannon in warfare. The alternating current is claimed by medical experts to be more effective as a curative and tonic than the continuous current of the same voltage and amperage. Whether or not it will prove more efficient than the continuous current in putting criminals to death remains to be seen. There are several machines in the market which generate currents having intensity and volume enough of current to kill a man in five seconds by the watch if the current was properly applied; and the makers of these machines know how to apply that current, too. They probably have both business and humanitarian reasons for declining to take a contract to put to death human beings, however worthless their lives may be, and however injurious their presence on this earth may be. Any one of these makers of dynamos would take a contract under guarantee to kill steers at any abattoir in the country more humanely, surely and rapidly than at present.

CHRISTIAN SCIENCE.

This term according to the dictionary, means knowledge pertaining to Christ and his religion, therefore, when it is applied to a system of healing the sick it is misapplied, and we believe that those who so apply it do it with the purpose of misleading. A recent writer, a clergyman of high standing, answers the question—What is Christian Science? thus: "No matter: All mind: All God: All good: No evil. These tenets clearly deny a personal God and nearly every doctrine which Christians hold including such vital doctrines, as redemption, regeneration, sin, resurrection, heaven and hell, and a personal devil, and affirm absolute inherent perfection of man." This shows conclusively that the title under which those who pretend to believe in this fraud, and who have unluckily succeeded in finding many dupes, masquerade, is a delusion and snare. The people who teach these false doctrines may be morally good, kindly and intelligent in some cases, but they are as a rule, vain sentimentalists either ignorant of, or disbelievers in, the Bible, the mainstay of the Christianity they claim to believe. The question naturally arises how we can explain "the many marvelous cures accomplished by Christian science." They claim to cure all sorts of incurable diseases, as pulmonary consumption, cancer, Bright's disease, leprosy, etc., as a matter of fact, they do not cure these diseases. We deny most of their claims. The majority of the ailing do not themselves know what diseases they have, and even skilled physicians are not always positive in their diagnosis. Many of those whose cases are widely trumpeted as cures die afterwards of the disease of which they believe they have been cured, while a great many who are not ill at all believe themselves to be so, and they, of course can readily be convinced by these so-called Christian scientists that they are cured. In many diseases the influence of mind and will over the body, when rightly directed, is of great value in medical treatment as has been seen in cases treated by mesmer-



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

ists. There could be no objection to the treatment employed by those who call themselves Christian scientists, provided they would call in regular physicians to effect the curing.

A HEALTH EXHIBITION.

The American Public Health Association will hold its next annual meeting at Brooklyn, N. Y., October 22, 23, 24 and 25, 1889. This association comprises over eight hundred members, all devoted, officially or otherwise, to the advancement of sanitary science and the promotion of practical public hygiene. In the furtherance of this purpose it has met annually during the last sixteen years in different cities of the United States and Canada, and has in every instance had the effect of greatly stimulating public effort in the promotion of health and measures for its maintenance. With the hope of still further magnifying this interest and effort, it is the purpose of the Association, through its local committee, at the forthcoming meeting, to provide an exhibition of everything available adapted to the promotion of health. The exhibits will be displayed under the following classification: The Dwelling; Schools and Education; Factories and Workshops; Clothing and Dress; Food; Sanitary Engineering; Public Health Administration in Cities and Towns; The Laboratory; Red Cross Section. Addresses will be delivered by Mayor Chapin, on behalf of the city, and by Alexander Hutchins, M. D., on behalf of the medical profession. The following topics have been selected for consideration at the meeting: 1. The Causes and Prevention of Infant Mortality; 2. Railway Sanitation; 3. Steamship Sanitation; 4. Methods of Scientific Cooking; 5. Yellow Fever; 6. The Prevention and Restriction of Tuberculosis in Man; 7. Methods of Prevention of Diphtheria, with Results of Such Methods; 8. How Far Should Health Authorities be Permitted to Apply Known Preventive Measures for the Control of Diphtheria; 9. Compulsory Vaccination; 10. Sanitation of Asylums, Prisons, Jails, and Other Eleemosynary Institutions. There will also be a comprehensive exhibition of sanitary goods and appliances in another large hall close by.

THE JOHNSTOWN CALAMITY.

We learn with interest that the public will at an early date be placed in possession of an authoritative narrative of the Johnstown disaster, which the Harrisburg, Pa., *Telegram* is preparing to publish in book form. The volume will meet the popular demand for a full, well-written, trustworthy description of the great calamity. Besides its literary and artistic merits, the fact that the net proceeds from the sales will be applied for the ben-

efit of printers, orphan children and aged men and women who suffered by the flood commends the work to the favorable consideration of the public. It goes without saying that a book of this style, profusely illustrated, written by an experienced editor from personal knowledge, and published to help a charitable object, will meet with an extensive sale over the entire country.

SCIENCE IN THE BOUDOIR.

THE CHEMISTRY OF THE TOILET TABLE.

We owe, in many cases, directly to chemical science the various preparations and devices by which the neatness and attractiveness of the person are secured, and such a simple operation as washing the hands is dependent upon complex chemical reactions, which even at present are not well understood. Soap is a combination of various fatty acids with an alkali such as soda or potash, and is a true chemical salt. When dissolved in water and applied to the skin, it has the property of uniting with the greasy matters secreted by it and removing them along with other foreign matter. The action is similar to that of the alkali itself, but is greatly weakened and modified by the fatty acid with which the alkali is combined in the soap. A double decomposition seems to take place between the soap and the matters on the skin, forming new and soluble compounds. There is no chemical principle involved in the brushing of the hair; but we may mention the curious formation of electric sparks, when dry hair is brushed or combed in cool, dry weather. If this is done in a dark room, quite good sized sparks may be seen playing around one's head; and this phenomenon may be the origin of the legends of ancient heroes, and the divine fires which blazed about them in their infancy without burning them. Similar sparks may sometimes be seen in winter, when woolen, or more especially, silk underclothing is removed. In all these cases, the electricity is simply produced by friction, and is not formed in the body by any of the vital processes. "Electric" hair brushes or combs may be mentioned only to warn our readers against their use, as they are entirely worthless. They not only produce no electricity whatever, but if they did it would not have the slightest effect upon the hair. The same is true in regard to the so-called electric tooth-brushes, hair-curlers, corsets and all the rest of the list. The use of fatty matters as a dressing for the hair dates from a remote antiquity, but it is a custom better honored in the breach than in the observance. Their use is uncleanly in the highest degree, and they serve no good purpose whatever. Bear's grease has long had a great reputation as a dressing for the hair, but it does not differ from any other coarse animal fat, and possesses no particular beneficial properties. If a dressing of this sort must be used, a solution of castor oil in cologne water is perhaps the best, or vaseline is a most excellent unguent which never turns rancid; but the occasions are very few where it is a necessity. Hair dyes are of two classes: those containing lead and those containing silver. Neither are fit to use, and serious illnesses have been caused by them. The effect of lead is dependent upon the presence of sulphur in the hair, which unites with the colorless salt in the dye, forming a brown or black sulphide of lead. With silver dyes, the well-known blackening effect of light is added. Dyes containing silver are not much used nowadays, as the bright purple tint they give to the hair, while it may be highly ornamental, is certainly not very natural. The bleaching solutions, for changing dark hair to an alleged blonde color, consist of a solution of peroxide of hydrogen. The substance only gives a dead, unnatural, grayish hue to the hair, and is always to be avoided. Hair restorers, for increasing the growth of the hair, are rarely of any benefit, and usually owe their properties to cantharides or some similar irritant or stimulating substance. When the hair-producing glands are inactive and sluggish in their action, they

may sometimes be stimulated to increased activity but in all such cases the advice of a physician should be taken. When the glands are destroyed, from disease or any other cause, it is impossible to cause the hair to grow again. Flesh powder should consist of finely powdered starch or rice flour, with a trace of perfume, or in some cases, pulverized talc may be used instead. Such preparations are not objectionable, but only the best qualities should be used, as the cheaper preparations are often very coarse and impure. Some years ago samples of powder were offered for sale in England which contained a considerable amount of arsenious acid. The various cosmetics and washes for the skin usually contain zinc, bismuth, lead, or mercury. They are really nothing but paints, and are not only injurious from the poisonous metallic substances they contain, but they fill up the pores of the skin, and thus increase the troubles they are supposed to remedy. A bad complexion is usually dependent upon constitutional causes, and cannot be improved by outward applications. Cologne water, as well as most other liquid perfumes, is a solution of various odoriferous gums and oils in very pure alcohol. If a few drops are poured into a glass of water the alcohol is so much diluted that the dissolved substances are precipitated out, forming a light cloud in the water. The perfume industry is a very extensive one, and the quality of the products varies all the way from very good to very bad—principally the latter, we should judge from our personal experience. Tooth powder is, or should be composed of finely powdered chalk and soap. Chalk has a scientific interest, in that it is made up of the skeletons of myriads of microscopical animals which lived in past geological ages, and it is a curious thought that millions of years ago certain little animals lived and died, that their remains might, in a future age, serve to cleanse the teeth of a being whose future existence was not at that time, even hinted at in the structure of any living organism. As to the more objectionable toilet preparations,—such as solutions for brightening the eyes, preparations of arsenic for the complexion, blue paint to imitate the veins under the skin, enamels for covering up defects, etc.,—they are of no interest or value, either scientific or practical, but are both dangerous and useless, and to be avoided under all circumstances; while the natural cosmetics—pure soap and water, plain, simple food, and correct hygienic habits—will always produce the beauty of good health, which is best and most attractive form.

—*Popular Science News.*

THE CIGARETTE ABOMINATION.

FURTHER TESTIMONY TO THE DANGER OF THE HABIT TO BOYS.

The practice of tobacco smoking has now become so general that at present few of the advocates of abstinence from the weed are heard. Temperance in this habit is assuredly necessary, for while in adults the moderate use of the narcotic seems to supply a want, apparently universal, of the human race, its abuse is attended by certain more or less constant evils. This want is evinced by the use of narcotics from the earliest times, all nations, savage, semi-savage and civilized having employed them in various forms, for that solace which the smoker of to-day finds in his pipe or cigar. Considering the large number of persons using tobacco, and their general health, it can hardly be said that its moderate use is harmful. Good observers have come to the conclusion that in the majority of cases tobacco, "used in moderation and when the stomach is not empty, has a beneficial effect." This, of course, applies to its use by adults. It has, in those accustomed to its use, a soothing effect upon the nervous system; but, on the other hand, it often acts as a nervous stimulant to mental work, as in reading, business, etc., the student being clearer with his pipe in his mouth and the broker mentally more active while puffing his Havana. Its action as a brain stimulant is believed to be due to the

irritation of the sensory nerves of the mouth and nose, which reflexly stimulates the vaso-motor centre, and dilates the vessels of the brain, thus providing for the most complete internal respiration of the brain cells by a free supply of arterial blood to them; an effect similar to that first produced by sipping alcohol. The difficulty is, that this like other remedies of its class, it is very liable to be abused, excess following the moderate use of the drug, when a whole train of characteristic evils follow; such as furred tongue, irritation of the throat and hoarseness, dyspepsia, irritability of the heart with a characteristic rhythm and palpitation (tobacco heart) trembling, cold, clammy extremities, loss of appetite, tobacco amaurosis, sudden fainting spells, etc. But it is upon young persons that its most baneful effects are seen. While we have above stated that its moderate use by adults is often beneficial, it cannot be too strongly urged that it is a most potent and insidious poison to the young. It is a question whether the present pernicious habit of cigarette smoking by boys is not equally of importance with the use of alcoholic liquors upon the rising generation. In this country we believe it is more harmful, inasmuch as cigarette smokers among boys outnumber spirit drinkers, largely, perhaps by twenty to one. These boys show the characteristic pallor, sickness and nervousness which result from the swallowing of nicotine. Anyone who has seen boys of from ten to sixteen or eighteen years of age, not only smoking, but inhaling the smoke of cigarettes, cannot but have seen the effects of the poison depicted not only upon their faces, but in their listless walk, delicate frame and mental lassitude. The special evils of this form of smoking are well marked. The poorest qualities of tobacco are commonly used in their manufacture, rich in nicotine rather than in the aromatic principles of the best specimens of the plant. More or less stringent laws have been enacted to restrict the sale of tobacco to children, but we all may observe how non-effective they are. In New York a recent act by the legislature makes it a misdemeanor to sell cigarettes or any form of tobacco to persons under sixteen years of age. Pennsylvania has a similar prohibitory law. Here it is unlawful to sell to boys under fourteen years of age, without a written order from the parents. Girls of any age may purchase. It will be easily understood how boys of any age may, by clubbing their cents, obtain the desired cigarette through the agency of a boy of fourteen years of age, the purchase being divided amongst them. Just how the evil is to be met is a grave question, moral suasion being of little avail among the lower classes, who are the greatest sufferers from this form of dissipation. A prohibitory law as to the manufacture of cigarettes might meet the case, for while the use of tobacco in any form is detrimental to the health of children, the use of cigarettes is undoubtedly at the present time the form of smoking which is most prejudicial to the health of the rising generation. —Canada Lancet.

EDISON'S INVENTIONS.

CLASSIFIED ENUMERATION OF THE PATENTS SECURED BY THOMAS A. EDISON.

TELEGRAPHY.—Printing and automatic, 52; chemical and perforating, 34; perforating machines, 6; chemical stock printer, 1; multiplex, 17; relays, 8; switches, 2; phonoplex, 3; induction relay tel., 2; acoustic, 2; amr. and ind. signal app., 4.

ELECTRIC LIGHTS.—Incandescent lamps and manfr., 104; arc lamps, 4.

DISTRIBUTION.—Systems of regulation and indicating devices, metres, sockets, switches, 68.

GENERATION.—Dynamoes, motors, 3; transmission of power, 54; regulation, 50.

RAILWAYS.—Electric motor and tracks, 8.

CONDUCTORS, UNDERGROUND AND OVERHEAD, 3.

TELEPHONES.—Transmitters and receivers, 32.

BATTERIES, GALVANIC AND SECONDARY, 3.

PHONOGRAPH, 21.

ORE MILLING, 4.

MISCELLANEOUS.—Electric pen and stencil app., 66; typewriter, 3; shafting, 1; malleable iron, 1; vocal engine, 1; preserving fruit, 1. Total, 493.

Besides these he has over 300 applications for patents pending on all subjects.

The various interests bearing his name own many hundred other patents covering details and modifications of Mr. Edison's inventions.

BUSINESS UPS AND DOWNS.

HIGH SPEED ATTAINED BY SOME OF THE NEW YORK ELEVATORS.

"The fastest elevator in the city," said a builder of them to a reporter recently, "is the old water-balance elevator in the Western Union Building. It isn't one of the regular passenger elevators, but is used mostly by the operators. To a man who tries it for the first time its speed seems simply tremendous. It goes down almost as fast as it could drop, and goes up again just as quickly. Practically the speed is almost unlimited. In figures it is anywhere from 1,000 to 2,000 feet a minute, and 1,000 feet is three times as fast as any other elevator runs. It is constructed in the very simplest manner. At the top is a pulley, over which a rope runs. At one end of the rope is a car. The other end, attached to a great bucket, runs down a long tube, reaching to the bottom. The bucket is filled with water. It becomes much heavier than the car, and drops to the bottom; consequently, the car shoots to the top. The water is let out, the car falls and the bucket rises. The elevator was built in 1875, a year before hydraulic elevators came into use. Why is it, you ask, that more haven't been built, and why has the slower hydraulic elevator crowded it out? For two reasons. In the first place, a skilled expert is required to run the water balance elevator. Then 1,000 feet a moment is entirely too fast for any one not fully accustomed to it. To get to the top of an eleven-story building in a minute is quick enough even for those in the greatest hurry, and an elevator running at 300 feet a minute, the average for the big buildings, can easily do that, with its stops on the way. The tall office buildings of the city seldom have a 'rise' of over 150 feet. The elevators of the city never run at their very highest speed. There is positive discomfort to the passenger when the elevator goes much faster than 300 feet a minute. The Washington Building makes the claim to, and it probably has, the swiftest service in the city. The rise is 175 feet. Without stops, it can be done in 18 seconds. That is over 500 feet a minute. These four elevators carry 10,000 people a day. The elevator plant of the Produce Exchange is the finest in the world. It runs nine elevators, each built to hold thirty persons, and is the most powerful to be found anywhere. Each elevator averages in its round trip a minute and a half, and can make 400 trips a day. They have a total capacity of 108,000 people daily. As a matter of fact, about 22,000 to 24,000 are carried. But the need of such a service appears just before the opening of 'Change, when four trips will place upon the floor over a thousand men. The service at the Cotton Exchange, though less extensive, is of the same power as the Produce. The speed is over three hundred feet a minute. The elevators in the Standard Oil Building attain another high rate of speed. There is little stopping, and it is said that each of the four elevators there make seventeen miles of trips a day. On actual trial they were run 725 feet in a minute. But there were no passengers then, and no such rate is attempted now. The elevators of the Potter Building carry 12,000 to 15,000 a day. There are four of them, and the speed is nearly three hundred and fifty feet a minute. The round trip for the eleven stories takes just two minutes.

The Union Bank Building's elevators run at the rate of 300 feet, and carry from four to five thousand people. Those of the *Times* Building, at a little over three hundred feet. None of the uptown apartment houses or hotels have especially speedy elevators. Elevators there are constructed especially for comfort. The Navarro Flats are remarkable for having the greatest number of elevators of any building—sixteen in all—that is, if the Navarro can be considered one building, instead of several."

THE VOGELPHONE.—William Vogel, the inventor of the vogelphone, claims that his instrument will enable him to talk between Paris and Chicago.

RATS!—It is said that rats are so fond of sunflower seeds that they will, if plenty, flock into the wire cage kind of a trap in such quantity as to nearly fill it. But they should be fed awhile on the seed before introducing the trap.

SPRING TRACES.—The ordinary leather and chain traces for drawing carts have been superseded on the Eastern Railway of France by chains with spiral springs, which permit the horse gradually to bring its force to bear on the vehicle in starting it. They are found more serviceable than the rigid trace.

MOSQUITO CURE.—To keep off mosquitoes: Take a small quantity of a 2 per cent. carbolic acid solution and sprinkle sheets, coverlets, pillows and bolsters on both sides, the edges of bed curtains and the wall next the bed. The face and neck may also be slightly wet with the solution. Not a single gnat or mosquito, it is said, will come near.

TOUGH PAPER.—Paper tough as wood is said now to be made by mixing chloride of zinc with the pulp in the course of manufacture. It has been found that the greater the degree of concentration of the zinc solution the greater will be the toughness of the paper. It can be used for making boxes, combs, for roofing, and even, it is added, for making boats.

MAGNETIC EXTRACTION.—Mr. G. W. Perkins, of East Somerville, Mass., recently stepped upon a needle, which broke off in his flesh and could not be removed by the surgeon's knife. Finally he was taken to the Somerville electric light station, and holding his foot in close proximity to one of the dynamos the needle was drawn from its hiding place through the lacerated flesh.

PERHAPS SO.—From an experimental investigation carried out by the Dresden Municipal authorities it would appear that pathogenic micro-organisms do not thrive on books. The dust from a number of unused volumes was found to be only matter of a harmless character. The tubercle bacillus was especially sought and most conspicuously, not found. The conclusion arrived at was that the danger of circulating libraries spreading infection is very slight, but a recommendation is given to dust books well before reading them, and never to wet the finger in the mouth for the purpose of turning over the leaves.

SUBSTITUTE FOR OARS.—An ingenious contrivance is about to be brought out by Capt. Woolward, of the royal mail steamer "Don," by which it is proposed to do away with oars as a means of propelling ships' life-boats. It consists of a hand-power screw propeller, which enables the boat to be driven by any one in it though unacquainted with rowing. This, Capt. Woolward points out, will obviate the chance of passengers who may get away from a stranded ship finding themselves in a boat without oars or having them without any skilled in their use. The machinery takes up little room, and seems to be both efficient and simple.

ELECTRIC MINING.—Electricity has been brought into use as a motor for coal mining. A machine of the kind has been in practical operation every day at the mines of the Shawnee and Iron Point Coal Company, Shawnee, O., since the 1st of May. It only requires 3½ minutes to make a cut 5½ feet deep and 3 feet face. The cuts are made and the cutter bar withdrawn within 4 minutes, and the machine moved ready for another cut in less than 10 minutes. It does not require any effort on the part of the attendant while the machine is at work. At this rate six cuts per hour, or 60 cuts per day of 10 hours, can be easily made, and the machine will undercut 200 tons of coal.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

September.

MEATS.—Beef, mutton, lamb, veal, ham, kidneys, liver, venison.

GAME AND POULTRY.—Pigeon, chicken, duck, woodcock.

FISH.—Bass, blackfish, bluefish, clams, cod, crabs, eels, flounder, halibut, herring, lobster, mackerel, muskels, porgie, prawn, rockfish, salmon, trout, sea bass, sturgeon, turtle, white fish, whiting.

VEGETABLES.—Beets, beans, cabbage, carrots, cauliflower, corn, cucumbers, egg-plant, garlic, lettuce, onions, parsley, parsnips, potatoes, radishes, rhubarb, savory, shallots, spinach, squash, tomatoes, turnips.

FRUITS.—Apples, bananas, blackberries, gooseberries, huckleberries, grapes, melons, oranges, peaches, pears, pineapples, plums, raspberries, currants.

PRACTICAL RECIPES.

TOMATO SAUCE.—Take fresh ripe tomatoes, put them over the fire in a stewpan, pour on two or three tablespoonfuls of water and let them cook for a few minutes. Take from the fire and strain through the colander. Add to the liquor thus obtained a slice of raw ham, two shallots, a few spoonfuls of good soup stock, and let it cook for an hour; then strain. Make a little good brown sauce in another stewpan, add to it the tomato, boil together, season with cayenne, salt and sugar.

GREEN CORN FRITTERS.—Sift together a pint of flour, a heaping teaspoonful of Horsford's baking powder, half a teaspoonful of salt and a dash of white pepper. Cut through the centre of each row of kernels, and press out the inner part of them with the back of a knife; add three half pints of the corn pulp to the flour and four eggs well beaten; mix, and if the corn is not juicy enough to make the batter, add a little milk; drop spoonfuls of it in smoking hot fat, brown them nicely, and serve plain or with the sauce recommended for tomato fritters.

CHOCOLATE MACAROONS.—Melt three ounces of Baker's chocolate, slowly work it to a thick paste with one pound of pulverized sugar and three whites of eggs. Roll the mixture down to the thickness of about one-quarter of an inch; cut it in small round pieces with a paste cutter, either plain or scalloped; butter a pan slightly and dust it with flour and sugar, half of each; place the pieces of paste or mixture in and bake in a good steady oven.

"BRUNSWICK STEW."—Two slices of middling, chopped fine; put in water and start to boil; add two squirrels, two onions; boil well and strain; add two squashes sliced fine, four pods okra, one handful butter beans, two Irish potatoes, one half-pint tomatoes, three ears of tender corn; salt and pepper to taste; thicken with grated cracker or bread-crumbs, while boiling; last of all, add one tablespoonful of butter.

PICKLING GREEN PEPPERS.—Cut off the top of the pepper and take out the seeds; chop fine one cabbage, one cauliflower, and one dozen onions (small); put in whole 100 gherkins, two ounces of mustard-seeds, sufficient salt to season; fill the peppers full; place the top on and tie with a cord; stand upright in a stone jar, not packed too closely; cover with cold vinegar and put in a cool place. It will be ready to use in a week. This will pickle fifty large peppers.

ROLLED PANCAKES.—Beat six eggs separately; stir the yolks into one quart of warm milk with a tablespoonful of melted butter and a teaspoonful of salt; add sufficient flour to make a thin batter; then sprinkle in one teaspoonful of yeast powder, and stir

in the whites of the eggs; put a fryingpan on the fire, when it is hot, grease with a spoonful of lard; pour in a cupful of batter, fry a light brown and turn carefully so as not to break the cake; when brown on both sides lift out and spread with strawberry jam, or any kind of jam or marmalade you have; roll up nicely, and lay them on a plate; sprinkle with pulverized sugar; send to the table hot, and serve with or without cream.

POTATO PUFF.—Add two tablespoonfuls melted butter to one pint mashed potatoes and beat to a cream with a large fork; add the yolks of two eggs, beat well, one cup of cream, beat again, then add the well whipped whites, stir lightly, pour into a well buttered dish and bake until it is a rich brown.

BLOOD POISONING.

The increasing occurrence of cases of what is known as blood poisoning should excite far more interest in the general public than thus far has been displayed. Blood poisoning is not a new malady, but has been known and recognized by the medical profession for at least a thousand years. It is not local, but is found in every land upon the globe. Generally it is caused by the malignant action of decaying organic matter, or of some specific virus when introduced into the system through the skin. A familiar illustration is afforded in the fatal cases where flies that have fed on offal have bitten human beings, and introduced minute portions of decomposing animal tissue into the veins. The Jupiter fly of India, the Tsetse of Central Africa, and the carrion fly of Europe and the United States, have in this manner produced thousands of deaths. In every instance the progress of the disease was the same. From the point where the insect broke the cuticle and introduced the poison, inflammation started and spread until the entire organization was permeated with the ever-increasing malignant matter. Of a similar type are those dreaded diseases, charbon, malignant pustule and malignant carbuncle. Here the poison seems to be self-engendered. It comes into being at a certain point, and from this as a centre it spreads just exactly as its counterpart does in the case of Jupiter fly and other bites. A careful study of these disorders reveals the fact that they are all of the same character. In every instance the blood has been impure, either being surcharged with humors, depraved by former diseases or excessive use of powerful drugs and chemicals, or else contaminated by malaria or miasmatic germs. When the blood is pure and healthy, these disorders seldom happen. The bite of the insect causes a painful local inflammation which lasts a couple of days and then disappears, leaving behind a small cicatrix. So great is the contrast between pure and impure blood in this regard that the first question put by a physician who is called in to treat a complaint of this class is respecting the previous general health of his patient, and more especially as to those ills which result from impurity of the system. With the increasing complexity of civilization there is a strong and dangerous tendency toward blood disorders. The construction of modern houses, the ever-growing evil of sewer gas, and the countless emanations from a bad soil and decaying organic matter, and the narrowing limitations of trade, industrial and social life, tend toward restricting physical activity and developing impurities in the human system. There is no doubt in the minds of scientific students but that most of the diseases of today result from impure blood, and that two-thirds of the cases of blood poisoning arise from the same cause. The danger of blood poisoning is terribly on the increase. It may come from the bites of animals, birds, reptiles, fish, insects and even men; from being wounded, scratched or abraded by knives, forks, pins, needles, skewers, the edges of cracked glass, china, metal or earthenware; from blows, bruises, falls or collisions; from scratches, broken teeth, hang-nails, chafing or eruptions. In the past five years there have been authenticated fatal cases in which the prime injury arose from the bite of a bluefish, from the crushing of a caterpillar, from the attack of a mosquito, from the extraction of a tooth, from the treatment of a corn,

from the slipping of a razor in a barber's hand, from the blow of a potato-masher, and from the scalding of a kettle of boiling soup. So great is this increase that the text-books of to-day devote fifty pages to this field of disease when those of fifty years ago seldom gave as many lines. While the danger of blood poisoning is great and the disease in nearly every instance is of a frightful character, yet there need be little apprehension in the mind of the individual. All that is requisite is to expel from the system the humors which make blood poisoning a possibility. This is simple enough. Exercise and fresh air, regular bathing and regular habits, good diet and wholesome drinks, a proper amount of reading and thinking, and a sensible mode of clothing the body will keep the physical organism in admirable order and condition. When a person is in the enjoyment of perfect health, these are all that are needful to insure its continuance indefinitely. But, unfortunately, there is not one person in a hundred thousand who enjoys perfect health. For this vast army one other thing is necessary, and that is the regular use of a first-class blood-purifier. Many compounds of this nature are excellent, but one, and only one, complies with every condition and is useful in every case. This is the famous Ayer's Sarsaparilla, a simple but scientific combination of sarsaparilla, yellow dock, stillicia, podophyllin, and the double iodides. It stimulates and strengthens all the vital functions and purifies not only the blood but also every tissue in the body. Its use means health, comfort, strength and beauty. It also means immunity from that long series of disorders of which blood-poisoning is so prominent a type. To all who are in danger of such disorders, Ayer's Sarsaparilla is a priceless boon.

SULPHONAL.

A correspondent of the *Pall Mall Gazette* speaks of the proper use of narcotics as follows: Like so many other things, it is the abuse, not the judicious use, of narcotics which is to be deprecated. The great danger is in the constantly-increasing doses in which the injudicious indulge. I am convinced from long experience that it is better to get sleep from a mild narcotic than not to get sleep at all. But nevertheless it should be indulged in as seldom as possible, and never in increasing doses; and it should never be resorted to until every effort to obtain natural sleep has failed. The utmost caution in the use of narcotics is requisite. The desire for them is as insidious in some minds as the craving for alcohol is in others, and unless there is sufficient strength of mind to resist the inclination to increase the dose it is better to avoid it altogether. This was written before I met with the letters and articles recently published in the *Pall Mall Gazette* on the new remedy for sleeplessness, sulphonal. The dose recommended was from three to five tabloids (of five grains each), crushed up and mixed with a small quantity of water or milk. I have only used the former. I thought under these circumstances that four tabloids would be considered a moderate dose; and, acting on the suggestion in one of the letters on the subject, I took it about three-quarters of an hour before going to bed. A very few minutes after laying my head on the pillow I was asleep, and I slept as I had not slept since I was a child. Even in the morning when I awoke I felt sleepy, and turned round on my pillow and went off again. At about 7.30 I awoke, feeling perfectly well and more refreshed by my night's rest than I had felt for years. The next night I reduced the dose to three tabloids and had another good sleep for about five hours, and afterwards for another hour or two. I continued taking the smaller dose night after night, and watched carefully to see whether my general health was in any way affected. I am bound to admit that I felt better in every respect. I had more energy for my work, my digestion was better, and my whole nervous system seemed improved. Still I could hardly believe that the continuous use of the drug would not entail some evil consequences. I therefore paid a visit to the manufacturers, and laid the case before them. I received an assurance from them that the drug had been tested in every way, and that it left absolutely no after-effects. It does not effect the brain, heart or digestive organs. Its action is to soothe the nerve centres, and thereby induce sleep. I have now continued taking the drug for a month with the exception of a few nights, when I slept about the same time as I had previously slept. I am bound to admit that my nights have been more enjoyable than any I have had for years, and my general health is undoubtedly better. The sleep induced is precisely the same as natural sleep—at first sound, then followed by pleasant dreams, and the desire to sleep again when you wake. On the other hand, the effect of chloral and other hypnotics and narcotics is to send you into a sort of dull, dreamless stupor for a certain number of hours, from which you suddenly awake without any further desire to sleep.

WHOOPIING COUGH CURED.

Whooping cough is a very distressing disease, and unless checked by some effectual remedy will hang on for three months or longer. It not unfrequently proves fatal. Physicians' prescriptions are usually unavailing, but the inhalation (breathing) of vaporized cresolene will quite uniformly stop it in from six to ten days. The only effective way to use this remedy is by means of Page's vaporizer, which can readily be procured of druggists, with the requisite quantity of cresolene. Treated in this way the danger and suffering usually extended to months is shortened to a few days, at a trifling expense and but very little trouble. The fumes of cresolene are also of great value in the treatment of croup, diphtheria, and scarlet fever, preventing the spread of these contagious and much to be dreaded diseases. It is also a great relief in asthma.

CATARRH.

A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent on receipt of 10 cents, by A. H. Dixon & Son, 337 and 339 West King Street, Toronto, Canada.—*Toronto Globe*.

Sufferers from catarrhal troubles should carefully read the above.

WRITING RIGHT.

Raphael Rightwell procured a paying position on account of his perfect penmanship. R. Rightwell wrote well because he used one of Easterbrook's No. 128 Extra fine elastic pens.

HORSFORD'S ACID PHOSPHATE.

Imparts new energy to the brain, giving the feeling and sense of increased intellectual power.



Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

NIEDER-SELTERS-WATER.

The genuine Nieder-Selters-Water is so much superior to the many so-called natural mineral waters and to all the artificial waters, that it is surprising that every one

does not give it the preference. The price, too, is in its favor. It is cheaper. As an addition to wine or spirits, it brings out the flavor better, and is far healthier than the trashy and often vile imitation mineral waters. Try it.

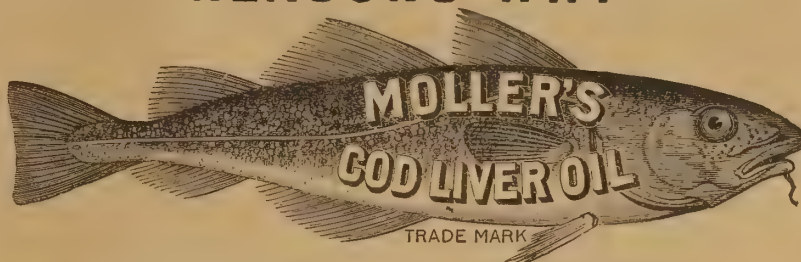
THE AMERICAN ANALYST.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

REASONS WHY



Should be preferred to all others:

Because—It is genuine-pure, just as it existed in the hepatic cells of the living fish, not depleted of its natural virtues by any process of refining, nor weakened by being made into an emulsion with an equal quantity of water, glycerine, etc., which latter device makes water bring the price of Oil.

Because—In taste and smell it is not offensive, but instead, sweet and agreeable.

Because—Its administration is always followed by satisfactory results.

Because—It is more easily assimilated than other Oils.

Because—It is more nutritious than other Oils.

Because—Of its perfect digestibility, perfect limpidity.

Because—This perfect Oil costs consumers no more than the poorer qualities abounding in the stores.

Because—It is readily obtainable; all well-stocked Drug Stores have it.

Because—It is unquestionably the purest and best COD-LIVER OIL IN THE WORLD.

W. H. SCHIEFFELIN & CO.,
NEW YORK.

Sole Agents for U. S. and Canada.

NATURAL GAS FOR BALLONS.—Prof. Carl Myers, who lately made a balloon ascension from Sandy Creek, N. Y., had the balloon inflated with natural gas from the gas well there. Nearly 1,000 people witnessed the ascension. Prof. Myers had been invited to Sandy Creek by the directors of the gas well for the purpose of testing the supply of the well. The experiment proved eminently satisfactory. The capacity of the balloon was 11,500 ft., and it took just thirty minutes to fill it, which would show an average flow of over 500,000 ft. per day. According to the present showing the well is a very valuable one, and the prospects are very flattering for a much larger flow as the drilling continues.

INCOMBUSTIBLE TEXTILES.—There are many substances which have the property of rendering the fabrics to which they are applied incombustible, but they usually spoil them, either by changing the color or stiffening them to such a degree that they cannot be used. An easy and safe way of protecting curtains and mosquito nets against fire is said to be by steeping them in a solution of phosphate of ammonia, obtained by mixing half a litre of water (one pint) with 100 grammes (about three ounces) of phosphate. In this way the color and texture remain unaltered.

AMERICAN PILE DWELLINGS.—Mr. H. B. Cresson, of Philadelphia, has been studying certain stakes or piles, which were first pointed out to him nearly twenty years ago, by a fisherman, in the mud at the mouth of Naaman's Creek, a small tributary of the Delaware river. These piles are the first indication of anything in North America resembling the remains of lake dwellings in Europe. Mr. Cresson's investigations led to the discovery of three distinct localities near each other. Around these stations were found a very important and instructive collection of stone implements, a few points and fragments of bone and human tooth. At one station a number of fragments of rude pottery were found, and at this were obtained several pile-ends, which are now in the Peabody Museum.

SACCHARINE.—This substance, which, as known, is three hundred times sweeter than sugar, is beginning to

be felt by the beet sugar manufacturers as a very dangerous enemy. It is stated that in Germany, already, so much saccharine has been made as to render 5,000 tons of beet sugar superfluous. It is principally employed in the preparation of fluids and the production of sweet liquors. It is not a food stuff. Indeed, it has been condemned by eminent medical authorities as directly prejudicial to health. The sugar manufacturers are of the opinion that saccharine should only be sold by chemists. France, Italy and Portugal are already contemplating imposing a tax on it.

HOSPITAL REMEDIES

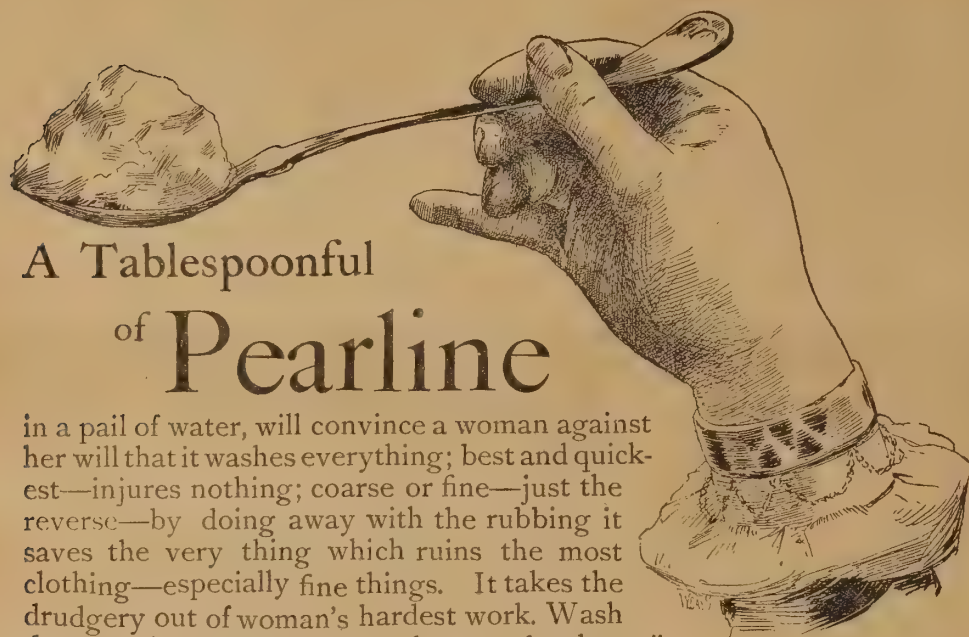
THE Favorite Prescriptions of the Brightest Medical Minds in the world, as used by them in the Hospitals of London, Paris, Berlin and Vienna.

ONE MEDICINE FOR ONE DISEASE.

- No. 1—Cures Catarrh, Hay Fever, Rose Cold, Catarrhal Deafness.**
- No. 2—Coughs, Colds, Bronchitis, Asthma, Consumption, A Peerless Remedy.**
- No. 3—Rheumatism, Gout.**
- No. 4—Liver & Kidneys, Dyspepsia, Indigestion, Constipation, Brights Disease.**
- No. 5—Fever and Ague, Dumb Ague, Malaria, Neuralgia.**
- No. 6—Female Weakness, Irregularities, Whites, A Golden Remedy.**
- No. 7—A Perfect Tonic, which gives Health, Form and Fullness, Clear Complexion, Good Blood and lots of it.**
- No. 8—Nervous Debility, Loss of Power, Impotence, an incomparable remedy.**

Every bottle guaranteed to cure its special disease IF CURABLE and to give permanent relief ALWAYS. Descriptive Circulars sent free on application. HOSPITAL REMEDY COMPANY, Toronto, Canada.

RELIABLE AGENTS WANTED.



A Tablespoonful of Pearline

in a pail of water, will convince a woman against her will that it washes everything; best and quickest—injures nothing; coarse or fine—just the reverse—by doing away with the rubbing it saves the very thing which ruins the most clothing—especially fine things. It takes the drudgery out of woman's hardest work. Wash day and cleaning time are no longer "bugbears" in the homes where Pearline is used—these homes number millions.

Beware

Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearline, or "the same as Pearline." IT'S FALSE—they are not, and besides are dangerous. 149 JAMES PYLE, New York.

AMERICAN ANALYST CLUB RATES.

	Regular American Price.	Price Including Analyst.		Regular American Price.	Price Including Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

MICHIGAN MINING SCHOOL.

For Catalogues, address
M. E. WADSWORTH, A. M., Ph. D., Director,
HOUGHTON, MICHIGAN.



BLAIR'S PILLS

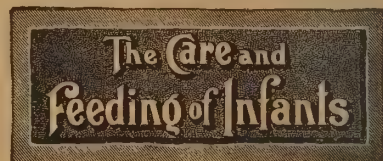
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval box 14 pills.
At all druggists, and 224 William St.,
New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, COODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 83
North Moore Street, New York.

Subscriptions \$1 per year. Now is the time to subscribe.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

SUBSCRIPTIONS; - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

✦ PICTURES. ✦

All kinds of small pictures enlarged to life-size.

**FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,**

at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE.

MRS. F. M. G. PENDER,

47 West Twenty-second Street.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

GABRIEL'S MARRIAGE,

By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,

By ETTA W. PIERCE.

THE RIGHTFUL HEIR,

By M. T. CALDOR.

THE DOUBLE HOUSE,

By MISS MULOCK.

TWICE SAVED,

By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, *profusely and handsomely illustrated*, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40 cts. Excellent Family Teas 50 & 60 cts. Very Best 65 to 90 cts. per lb. Special—We will send by mail a **Trial Order** of 3 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be

particular and state if you want Formosa or Amoy, Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

Any Book published can be procured upon application to

ANALYST PUBLISHING CO.,

19 Park Place, New York.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—



THE WORLD'S MEDICINE.

From the earliest days of medicinal science no antidote has achieved such a reputation as

BEECHAM'S PILLS.

Their fame has reached the uttermost parts of the earth; their curative power is universally acknowledged to a degree unprecedented in the annals of physical research; and it is echoed from shore to shore that for Bilious and Nervous Disorders, Indigestion with its dreaded allies, and for assisting Nature in her wondrous functions, they are

WORTH A GUINEA A BOX.

BEECHAM'S PILLS—the wonderful English Medicine—are a safe and speedy cure for **Weak Stomach, Impaired Digestion, Sick Headache, Constipation, Disordered Liver, etc.** Sold by all druggists in the United States at 25 cents a box, or will be mailed on receipt of price by B. F. ALLEN & Co., 365 Canal Street, New York, sole agents for the United States. Prepared only by THOS. BEECHAM, St. Helens, Lancashire, England.

In ordering mention THE AMERICAN ANALYST.

Four Books in One! No Household is Complete Without It!

THE COMPLETE BOOK OF HOME AMUSEMENTS.



What most lives need is *more sunshine*. Let us banish care, have a good time, enjoy ourselves while we may. How much happier—how much better off—are those homes wherein the father and mother, and even the gray-haired grandparents, join with the children after tea in a merry game or other amusement, than those wherein reticence and reserve and chilly demeanor prevail. "But," you say, "what shall we do? We read until we are tired; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful book it is. It contains 64 large 8-column quarto pages, neatly bound in handsome covers, and is filled to the brim with every conceivable thing for the enjoyment of home. It is in reality *four books in one*, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It is a complete text-book for Public and Private Entertainments, Private Theatricals, Parlor Exhibitions, Social Gatherings, School Exhibitions and Evenings at Home. It is a book for old and young, grave and gay—a veritable storehouse of good things for all. It contains a number of ACTING CHARADES, with full directions how to perform them. It gives some very excellent PARLOR DRAMAS, easily acted yet very amusing. It tells all about SHADOW PANTOMIMES, and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful TABLEAU VIVANTS, and gives full and explicit directions for performing them. In it are so many amusing PARLOR GAMES that we have not attempted to count them, but we think we have almost everything, new and old, that was ever thought of in the game line. Then we come to a lot of wonderful ILLUSTRATED PUZZLES—tantalizing, perplexing, apparently intricate, but so *easy* when you turn to the proper place and learn the answers. Here also is a savory dish of RIDDLES, ENIGMAS, CHARADES, ETC.—a nice large lot of them. How young and old heads will puzzle and study over them, and how proud you will feel when you have solved one correctly. As to CONUNDRUMS, there are *nearly a bushel* of them, some so funny you will want to hold your sides with laughter, and what fun it will be for one of the company to read the questions and see who can guess the answers! A considerable portion of the book is allotted to PARLOR MAGIC, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are a lot of amusing and instructive CHEMICAL EXPERIMENTS, showing how the combination and manipulation of the simplest agents will produce the most surprising results. Following these are a number of excellent DIALOGUES, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest RECITATIONS, dramatic, pathetic, sentimental, and comic, ever written. It is handsomely illustrated, and is indeed a splendid book. THE COMPLETE BOOK OF HOME AMUSEMENTS will be sent by mail, post paid, to any address, upon receipt of only *Twenty-five Cents*.

HOW THE READERS OF THE AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF
THE ABOVE BOOKS

FREE.

To any one who will send us **One New Subscriber** to the AMERICAN ANALYST for one year, at \$1, we will send, **Free**, any one of the above books, to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work, for it is a simple and easy matter to get one or more new subscribers to the AMERICAN ANALYST. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. We feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,
UNION STOCK YARDS,
CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dinmock, only three possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppel's Malt Extract.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

PROF. R. H. CRITCHFIELD, Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Quinine.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Fermented.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatic.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist, 125 West 42nd Street, NEW YORK CITY, N.Y.

P.S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

GORDON & DILWORTH

MANUFACTURING PURVEYORS

Established 1847

ALIMENTARY PRODUCTS
ALL OF OUR PRODUCTIONS BEAR THIS TRADE MARK
WE WILL PROSECUTE ALL INFRINGEMENTS & IMITATIONS

JELLIES, CANNED GOODS, PRESERVES, FRUITS, SYRUPS, BRANDY, MINCE MEAT, PLUM PUDDING, SALAD, OLIVE CHIPS, CATSUP

CHOICE & DESSERTS
OVER 100 DOMESTIC & FOREIGN FRUITS AND VEGETABLES TRANSMUTED INTO TABLE DELICACIES

PRICES ON PRESERVED FRUITS REDUCED 1ST DEC. 1885



SOLD BY THE LEADING GROCERS ON THE AMERICAN CONTINENT.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

Pure
LAGER BEER,
"IMPERIAL" and
"CULMBACHER"
Brewed & Bottled
SPECIALLY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES
BY
Beadleston & Woerz
291 W. 10th St New York.
Orders by Postal Card
promptly attended to.

LEA & PERRINS' SAUCE.



Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

A CURE

FOR

Sick and Nervous
HEADACHES.



ASK FOR

BROMO-SODA
AND
TAKE NO SUBSTITUTE.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest and Most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in Cans.

PRICE BAKING POWDER CO.

NEW YORK. CHICAGO. ST. LOUIS.
SAN FRANCISCO.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

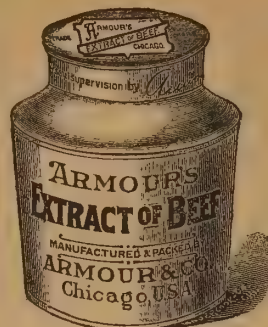
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, 4 inches, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 40.

NEW YORK, THURSDAY, OCTOBER 3, 1889.

WHOLE No. 136

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Correspondence.....	471
Fashionable London Fancies.....	
Domestic Dietetics.....	472
Editorials.....	469
Organized Hypnotism; Bursting the Inspection Bubble; Grasping Time's Fleeting Forelock; Sunflowers and Malaria; Light Fantastic Atoms; Enforcing Adultera- tion Laws.....	
Faith Follies.....	471
Microbes in a Trunk.....	471
Monotony and Nerves.....	471
Pacific Inquietude.....	470
Soda.....	470

ORGANIZED HYPNOTISM.

A movement is on foot in London to organize a society for promoting the development of the science of mesmerism, and the application of hypnotism to practical needs. Two eminent French physicians, distinguished for their investigations in the realm of animal magnetism, Drs. Grillo and Charcot, are among the leading spirits in the new movement, one important object of which is to protect society from the risks consequent upon the practice of hypnotism by rogues and pretenders. It is sought to confine it to the medical profession and persons duly and legally qualified to practice it. For this purpose it is proposed to found a school of hypnotism in London, at which the science will be properly taught by the best exponents, scientifically demonstrated by lecture and experiment, and its beneficial uses correctly defined and expounded. From this school it is hoped that a wider knowledge and appreciation of the science will spread. At present the medical profession does not look with much kindness upon hypnotism, nor does the general public, for it has

been accustomed only to see it practiced by mountebanks and charlatans. But if it were made the subject of genuine scientific research, as has been done by Dr. Charcot in Paris, and if its practice was restricted by law to the duly qualified, then both the public and the medical profession would begin to accord to it the respect this very remarkable and, in its effects, marvelous science deserves. Dr. Charcot and Dr. Grillo are the greatest of present day exponents of this science. Their practice is totally different, however. Dr. Charcot uses it frequently as an anæsthetic. Dr. Grillo, on the other hand, employs the science almost exclusively for what he rightly terms "moral cures." This is by means of suggestion. He goes, for instance, to the reformatories for boys and girls, and having hypnotized a patient, whose disease we will say is theft, suggests that he shall no more steal nor be dishonest. The results of suggestion are variable in their effect. Sometimes they will last for two or three years. In a few cases the suggestion needs never to be repeated; but in the majority of cases the effect is good in this way, that the patient learns during its continuation to appreciate the advantages of the suggestion to such a degree, that after the effect of the hypnotism itself has worn off, the appreciation remains and the "moral cure" is complete. Dr. Charcot has applied it in cases of hysteria. Many people fancy they are sufferers from certain diseases, as lameness, rheumatism, paralysis. He hypnotizes them and "suggests" to them that they are cured. When he restores them to their consciousness, the suggestion remains and the cure is complete. Hypnotism is in reality produced by the tiring of one of the senses, and it may be induced by acting upon the credulity. Thus, for instance, in the well known cases of the pilgrims to Notre Dame de Lourdes, the people are first of all fully convinced that they are going to be cured. In other words, they are hypnotized. The cure is then "suggested" to them, and the result is a so-called miracle, which is no miracle at all.

BURSTING THE INSPECTION BUBBLE.

On Monday, September 23d, in the United States Circuit Court in St. Paul, Minn., Judge Nelson delivered an able and exhaustive opinion, holding the Minnesota Meat Inspection Law unconstitutional and void. He held that it was in plain violation of the commercial clause of the Constitution, which provided that Congress shall have control of commerce between the States and with the Indian tribes. He also held that it was in violation of the clause of the Constitution which provides that the citizens of each State shall be entitled to all the privileges and immunities of the citizens of the several States. The decision opens the State of Minnesota throughout to the sale of dressed beef from Chicago and Kansas City, and practically settles the validity of the law compelling inspection on the hoof, because there is no court except the Supreme Court of the United States that has authority to reverse

or overrule this decision, and it becomes the law of the land until it is reversed. As an appeal could not be heard in the Supreme Court in from three to five years, and it is not at all probable that the decision of two so able jurists as Judges Blodgett and Nelson would ever be reversed, it practically kills the Minnesota Cattle Inspection Law.

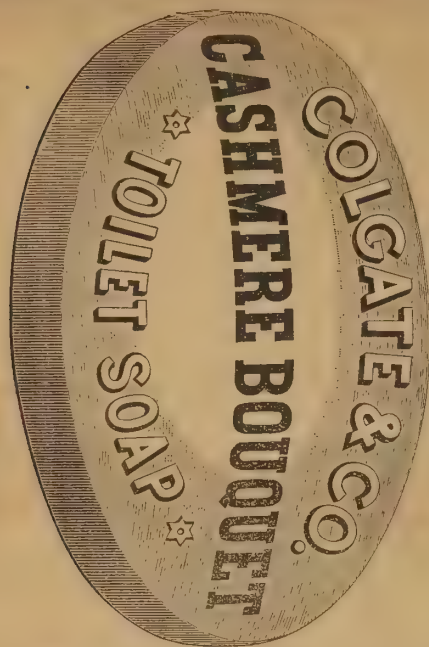
GRASPING TIME'S FLEETING FORELOCK.

The 500th natal year of the United States of America is to be celebrated in Chicago. An exposition of the world's industries is to be organized as a fitting celebration of that important epoch. The Hottentot and the Esquimaux, the Mongolian, and the Caucasian, the Arab and the Indian, the bushman and the cowboy, the Jap and the African, the lion of commerce and the lamb of industry will unite in their praise of Christopher Columbus by a friendly rivalry in exhibiting their products of art, science and literature.

The above from the Chicago *Health and Home* for September affords a brilliant illustration of that city's indomitable enterprise. When the exposition of 1892 was first mooted there were some vague rumors that Chicago would willingly accept the contract if she should be selected as the site for celebrating the Columbus anniversary. But popular sentiment was naturally averse to locating an exposition of such significance elsewhere than in the national metropolis, and Chicago was compelled to give way to New York. It appears now from the editorial quoted above that, far from being disheartened at failing to secure the show of 1892, Chicago has determined to get up on her own account a glorious demonstration for the Fourth of July, 2276, which our esteemed contemporary rightly conjectures will be an "important epoch." One scarcely knows which is the more commendable—the good natured manner in which the Queen City drops the Columbus memorial as being too large for her grasp, or the caution she displays in selecting a date 387 years ahead for getting up a performance on her own account. She evidently expects to require about that interval for educating the Hottentots, Esquimaux and Arabs in their respective parts in the pageant, and we trust we shall be pardoned for expressing the editorial regret that we cannot personally be present on the auspicious occasion. We should like to see those Bushmen, and hear them warble their praises of Columbus.

SUNFLOWERS AND MALARIA.

In a recent issue of the Russian medical journal, the *Meditsina*, a contributor emphatically draws attention to the common sunflower as an excellent and cheap substitute for quinine in the treatment of malarial fevers of all possible forms. The remedy has been from time immemorial used for the purpose in the Russian, as well as Persian and Turkish popular medicine, and that mostly after the following plan: A flask is filled loosely with finely cut dry or recent flowers and stem, and then with vodka aqua vitæ. The hermetically corked vessel is left to stand under sun rays, or at



some warm place, for two or three days. The tincture is then ready for use and should be given as a small wineglassful three times a day. In recent cases, complete and permanent cure ensues in from one to three days; in most obstinate and inveterate, not later than a week. The remedy proved successful even in such cases where quinine and other anti-malarial means failed.

LIGHT FANTASTIC ATOMS.

A congress of chemists was held recently in Germany in which several notable scientific diversions were exhibited. One in particular attracted special attention. Dr. Hoffmann, of Cologne, gave a short lecture enumerating the difficulties experienced by students in remembering the constitution of organic compounds, and proposed an original method of fixing the formulæ in their memory. A ballet then commenced, in which the coryphees, dressed in various colors, represented the different atoms. Under the direction of the professor, the atoms grouped themselves in different attitudes, representing the chemical compounds and their reactions. Specially noteworthy were the composition of benzole and aniline and its derivatives. On the formation of fuschine, or any of the coloring matters, brilliant lights illuminated the groups. The representation terminated in the explosion of one of the substances. This "excellent ballet" was the crowning event of the evening.

ENFORCING ADULTERATION LAWS.

We learn from our Western exchanges that the advocates of pure food in Minnesota and Wisconsin are about to begin a series of prosecutions for violations of the laws relating to the adulteration of food. The dairy and food commissions in both States claim to have discovered recently many despicable and dangerous adulterations which deserve the severest criticism. Dr. Drew, of Minneapolis, has made a report as department chemist showing the result of analyses of suspected food and food constituents. Twenty-three samples of cream of tartar and ten of olive oil were reported on. Six of the olive oil samples were largely or entirely made up of cottonseed oil, which is sufficient to bring the article under the ban. Out of the 23 samples of cream of tartar, only two were anywhere near pure, while the other 21 were rank frauds, none of them containing any cream of tartar whatever. All contained tartaric acid; 20 had starch or flour, 10 contained acid calcium phosphate, 4 alum, and all terra alba or sulphate of lime. During the month of August 123 samples of dairy and food products and liquor were received at the

Minneapolis laboratory, including milk, cheese, baking powder, vinegar, lard, wine, whiskey, cream tartar, olive oil. Sixty-seven were adulterated, 47 were pure, and the analysis of 11 is not yet completed. The laws against food adulteration are directly in the interest of the consumer, and it rests with him to see that these abuses are exposed and punished.

SODA.

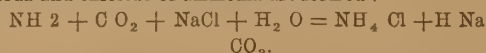
SOME INVESTIGATIONS RESPECTING THIS IMPORTANT PRODUCT.

This term is applied scientifically only to the oxides of the metal sodium, but practically it covers several other sodium compounds, more particularly the hydrate and carbonates. Three oxides are known but neither of them is of any considerable importance in manufacturing or industrial operations. The carbonate of sodium Na_2CO_3 is an important salt existing in nature but not to a very great extent. The sesqui carbonate is found in several localities especially in Egypt and South America under the name of *trona*. Other varieties are found in India, Hungary, Mexico, etc. Formerly soda was largely obtained from the ashes of marine plants by calcination, the product being known as barilla or kelp. About the close of the last century Scheele and others worked out a process for the decomposition of common salt. The use of sulphuric acid for the decomposition of salt and fusing the resultant sulphate of soda with coal into sulphide and decomposing this by iron or lead into caustic soda and sulphide of lead was first proposed by Higgings in 1781. LeBlanc's process, originally stimulated by a reward of the French government to find a substitute for barilla, consisted in the decomposition of salt by sulphuric acid, the conversion of the sulphate of soda thus formed into carbonate of soda and sulphate of lime by means of chalk and coal and then by washing, of the soluble carbonate. This process, as we have roughly described it with remarkably little modification, is the one now generally employed. The sulphate of soda is generally known as salt-cake. The action of sulphuric acid upon salt is very simple; thus



The soda carbonate is also known as soda-ash. This is further refined by dissolving in hot water, settling, boiling down and re-furnacing. The crystalline compound of carbonate of soda with ten atoms of water is known as soda-crystals which are extensively used for household and cleansing purposes, also in bleaching, tanning and dyeing.

Bicarbonate of sodium NaHCO_2 is prepared by passing a stream of carbon dioxide through a cold solution of the neutral carbonate or by exposing the crystals to the gas. It is also prepared by another process where four parts of soda crystals are mixed with one part of sesqui carbonate of ammonia, which when heated gives off ammonia, the bicarbonate of sodium remaining. This solvay process is founded upon the well known laboratory reaction, that when carbon dioxide is passed into a solution of common salt and ammonia, bicarbonate of soda and chloride of ammonia are formed:



American manufacturers have greatly improved their method of manufacture, cheapening and bettering their product. Some manufacturers still adhere to the old method of charging the soda with carbonic dioxide in large bulk while others use only thin layers. The latter naturally have a more even product, because every part of the thin layer of soda becomes evenly charged with the carbonic acid gas while in the old process only the outside portions of the soda are sufficiently charged, the inner portions or core not having been as accessible to the gas. It follows that bicarbonate of soda prepared by the latter method does not run as evenly in the amount of bicarbonate it contains. The value of bicarbonate of soda depends upon the large and even proportion of bicarbonate, the low amount of carbonate and

the minimum of moisture found therein. As in many other goods the consumer will find his interest best subserved in buying bicarbonate of soda in packages bearing the trade mark and name of the manufacturer. It is generally sold in packages from one half pound to a hundred or more pounds.

PACIFIC INQUIETUDE.

THE CHILDLIKE CHINAMAN THREATENING THE CALIFORNIA CANNING BUSINESS.

The Pacific coast fruit packers are far from the enjoyment of the quiet contentment that eastern packers associate in their minds with the glorious climate of California. They have their troubles just like their eastern brethren, and in addition to ordinary disappointments they sometimes find it difficult to make the railroads give them reasonable rates on their products coming East. But now the greatest of all evils seems to threaten their business. The Chinese have developed a taste for canning fruits, and they are going into the business at a rate that is sufficient to alarm some of the packers. During the few years that the quiet Chinaman has been engaged as a laborer in the canneries he has kept both eyes open and learned all he could. What his keen observation has discovered cannot be told, but suffice to say it has its bearing on that part of the business that will reduce the expenses of labor to less than half of what is now paid for it. The American canners have been very slow to act in the matter of ascertaining the feeling among the trade in regard to the growth of the Chinese canning business. An informal meeting of the Canned Goods Association of California was held recently, at which the situation was discussed, and it was understood that an open meeting would be held soon to take action. The *Herald of Trade* has the following to say on the subject: "When it was first announced that the Chinese had established two fruit canneries in California, one at San Jose and the other in this city, there was an inclination to keep the matter quiet; but it was soon noised abroad, and now the daily newspapers are discussing the situation. Several prominent manufacturers have been interviewed, and the canners have been scored for first engaging the Chinese and letting them into the mysteries of fruit packing. To some extent they justly have been subjected to the public criticism of their course in the past. It is a fact that they have been employed about the fruit canneries for years, although they have never been allowed to handle fruit, at least in the city canneries. They never should have been allowed an entrance to the canneries under any consideration. History of all California industries in which Chinese have been engaged repeats itself. In cigar making they have driven out the American manufacturer. In boot and shoe making the trade has had the same experience. In clothing manufacturing the Chinese have built up a business at the expense of the Americans engaged in the trade. To look for anything else but a steady increase in the number of Chinese canneries, if they are allowed to continue in the way in which they have commenced operations is simply a momentary evasion of a disagreeable situation. If the industry is to be turned over to the Chinese, there is no occasion for any alarm, but if it is to be preserved and protected against the threatened inroad, action must be taken immediately, and decisive action, too."

ANTI-SHAKE.—A Brazilian inventor, to whom a patent has just been issued, proposes to remedy the annoyance suffered from the shaking of dishes upon the tables on shipboard by means of an electric contrivance. His idea is to use an electro-magnetic device. To the under side of the dishes will be attached small pieces of iron, and on the table will be laid long strips of soft iron to which wires leading to a battery will be connected. The use of this electro-magnetic appliance will not mar the appearance of the tables, and certainly it should prove effective.

MONOTONY AND NERVES.

MENTAL AND NERVOUS OVERSTRAIN FROM PIANO PRACTICE.

The weariness of long-continued study is proverbial. Its explanation is not far to seek. One portion of our entire being is almost entirely occupied, and the monotony of the process constitutes in large measure the cause of exhaustion. Relief must accordingly be sought in rest, in the exercise of other functions, or in variation of the form of mental exertion. Such timely and refreshing change enters into all well-ordered plans of education. There is, however, in every study a stage at which persistent concentration is indispensable to anything like high development. Reiteration, though tedious, is necessary to full instruction. Perhaps no better illustration of this fact could be found than that which is constantly evident in the cultivation of music. One could hardly conceive of anything more truly monotonous than a continuance of that tax of patience, piano practice. No doubt inclination and inborn faculty may do much to create an interest, but the most enthusiastic learner will sometimes, notwithstanding, rebel against the exactions of musical cram. It has even been stated by a German observer that much of the nervous delicacy so common among girls is traceable to excessive diligence at the piano. There is more than a grain of truth in this observation. The limit of moderation, indeed, may not be capable of exact definition, for a longer or shorter period would naturally suit the need and capacity of different persons. One or two hours of practice, it is probable, would rarely prove excessive. When, however, six or eight hours are daily absorbed in repeating a humdrum series of manipulations, the wonder is that nature long endures the drudgery. Yet this is the common lot of many who aspire to skillful execution. The coveted perfection doubtless is often approximately reached, but the associated circumstance of nervous overstrain will suggest a doubt whether such qualified excellence is altogether desirable. At all events, it is but reason to allow that proficiency so dearly purchased is not, for young people of deficient nervous tone, a social necessity, especially if they be also void of any special artistic aptitude. Nay, even for those whose health and energy permit them to enjoy, if they choose, the privilege of musical hard labor, a frequent interlude of rest and recreation is no less needful than discreet.

CORRESPONDENCE.

SOME FASHIONABLE FANCIES OF LONDON SOCIETY.

LONDON, Sept. 20.

Editors AMERICAN ANALYST: Since I last wrote I have been enjoying a very lively time at Cowes alternately with little visits to House Boats in the realms of Father Thames. A description of the Cowes festivities and a luncheon on a House Boat I hope will be acceptable to the readers of the AMERICAN ANALYST. A luncheon at the house of one of the private residents at Cowes was a most decorative affair. Fishing-nets were festooned round the tops of the rooms, and in them was a sort of *omnium gatherum* of imitation marine productions, such as lobsters, mackerel, oyster shells, intermingled with Japanese grasshoppers, frogs and other Japanese creatures I wot not the name of. Japanese fans and birds were dotted about between the nets, oars crossed over the windows and doors, fringes of shells looped back the window curtains. In the centre of the table in the dining-room was a trophy of flags of all nations, of course in miniature size; they were placed in a large old-silver bowl. At the top and bottom of the table were miniature cannon made entirely of flowers; whilst down the table were specimen glasses each holding a different colored or differently marked picotee or

carnation. Small flags standing on cannon-balls were the guest-cards, and the menus were written on shells. At several houses the floral decorations were very charming. One table of water-lilies and grasses was especially captivating. A great block of ice stood in the centre, and miniature glass bowls were placed round, containing very small gold fish. At another dinner there were metal archways placed along the table, covered with blooms of pink and crimson roses interspersed with mignonette. At one table the flowers were most original, but I do not know that I quite liked it, as it was a little heavy: it was a combination of mauve orchids, gold roses, and black foliage; it is prophesied these mixtures will be very prevalent in 1890. At one of the last of the season dinner-parties there were mauve orchids, yellow foliage and very dark red roses. The boat-house to which I was bidden to luncheon was a trophy of floral decoration. The boat was hung with baskets of flowers of every description; window-boxes of them were placed on the top, and on which top we had our lunch under a brilliant tent awning. It was a long table, and in the centre was a sedan chair entirely composed of corn flowers and poppies, in the centre of the chair a maidenhair fern; at intervals in the centre of the table, were tiny pleasure-boats entirely made of corn flowers, with here and there a poppy; there were sprays of the same flowers scattered all over the table, and down the sides were little silver shrimp nets containing flowers. The menus were miniature ships, the bill of fare written on the sails, and each guest-card was in the shape of an oar. The balcony or railing round the top of the boat was festooned with garlands of flowers. The china was all hand-painted, and descriptive of river scenes, such as boats of all kind, fishing, bathing, swimming, etc. Among the guest-cards most in vogue this season were hats and horse-hoofs. Candle shades have become rather costly this season, for at many houses I saw that the shades were in perforated silver to match the candlesticks; they were lined with red or yellow, according to the tone and tints of the decorations. Macbeth menus were greatly used also. They were made in cardboard in the shape of the witches' caldrons, smoke and all. Butterfly menus and guest-cards all in one were some of the pretty table conceits. The name was written on the wings and the wings unfolded disclosed the menu.

W.

MICROBES IN A TRUNK.

INFECTED MEMENTOES AFFLICT TWO FAMILIES AFTER THIRTY YEARS.

Thirty-five years ago an opulent family lived in one of our most beautiful suburbs, says the *Journal of Surgery*. Two lovely children graced the happy household. But scarlet fever closed their eyes in death. The grief stricken mother gathered up little slippers and toys, with two golden tresses, and reverently laid them away in a trunk as sad but priceless mementoes of her lost darlings. War came with its tragic vicissitudes, and death time and again threw its shadow over the hearthstone. Finally the place passed into strangers' hands. Last year two families took it as a summer residence. The children, six in number, with childish curiosity, began to explore the secret recesses of the grand old house. In a closet was found the forgotten trunk. A touch dissolved the time-corroded clasp and one by one the sacred relics were removed, until a faded newspaper was found which told the pathetic story. Half spelling out the meaning they took it to their mother, who chided their curiosity and tenderly replaced the treasures. Five days after this occurrence two of the children were seized with scarlet fever and forty-eight hours later the other four were attacked. Two cases were grave, the others mild. All recovered. Was the disease contracted from the trunk? I think so, because there was no other ascertainable source of infection.

Moral—Silks, woolen and hair, being good fomites,

should not be put away in air-tight trunks as mementoes of friends dying with infectious diseases, because they may become at some remote period the starting point of a wide spreading and disastrous epidemic, a calamity which was averted in this instance only by complete isolation.

FAITH FOLLIES.

CURRENT EXPOSURES OF CRIMINAL CHRISTIAN SCIENCE.

A GIRL FORCED TO DIE WITHOUT MEDICAL AID.

A despatch from Watertown, N. Y., dated September 22, says: Anna McKee, one of the prettiest young ladies of Cape Vincent, was employed as dressmaker in Redpath's establishment in New York. A few weeks ago she came up from New York to visit friends. While in Cape Vincent she stopped at the residence of Emma Ingalls, a spinster, who thinks she has been cured of innumerable ills through the medium of one Mrs. A. J. McConnell, who is chief among a small band of Christian Scientists. A few days ago Miss McKee was taken ill with gastritis. Mrs. McConnell and Miss Ingalls took full charge of her case. They did not send for a physician, but told the girl that God would be angry with her if she distrusted Him to that extent. They advised her that if she kept right on trusting and praying she would get well. Miss McKee did not believe in Christian Science, but she was powerless. When at last she lay in the most terrible agony, the only comfort or help she got was an exhortation to be faithful and pray. Three days before Miss McKee's death Miss Libbie Iselin and Mrs. E. Stala heard how ill she was, and went to the house. They were denied admittance by Miss Ingalls, but pushed the spinster aside and reached the sick girl's bedside. They sent for Dr. Masson, but when the physician arrived he was unable to do anything to save the girl's life. Miss McKee died next day. The physician believes that if he had been called in time he could have saved her life. The people of the town are very indignant over the affair.

SMOKE SANITATION.—The belief that smoke from soft coal may have beneficial sanitary effects is gaining ground. It is claimed that that the sulphur in the coal when burned becomes sulphurous acid gas, a well-known disinfectant. Further, that creosote and its allied products are thrown off with the fumes of bituminous coal, and that an atmosphere charged with carbolic acid must be freer from germs of disease than an apparently purer air.

DELICATE WORK.—A process of engraving on glass and crystal by electricity has been communicated to the French Academy of Science by M. Plante. The plate to be engraved is covered with a concentrated solution of nitrate of potash, and put in connection with one of the poles of the battery, and the design is traced out with a fine platinum point connected to the other pole. The results are said to be of marvellous delicacy.

THE WATCH ANATOMIZED.—The average watch is composed of 175 different pieces, comprising upwards of 2,400 separate and distinct operations in its manufacture. The balance has 18 000 beats or vibrations per hour, 12,060,080 in thirty days, 157,680,000 in one year. It travels 1 43-100 inches with each vibration, which is equal to 9½ miles in twenty-four hours, 292½ miles in thirty days, or 3,558½ miles in one year.

NOISELESS CLOCK.—A curiously considerate invention has been produced by a Frenchman, in the shape of a noiseless clock, for use more especially in sick rooms. In place of the usual pendulum, the hands are set in motion by the unrolling of a chain, the end of which is fastened to a buoy floating in a tank of liquid. This fluid escapes at a uniform rate, and can be utilized to feed a lamp wick, thus giving the apparatus the double character of clock and lamp. When the lamp is lighted the necessary diminution of liquid takes place by combustion, and at other times by carefully-regulated dropping.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

October.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, celery, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

TO FRICASSEE COLD ROAST BEEF.—Cut the beef into slices (which should be very thin), and put it with some strong broth into a stewpan; add parsley chopped small, an onion scored, and a piece of butter; simmer fifteen minutes, then add a glass of port wine and the yolk of a couple of eggs; mix well, stew quickly, heat the dish, rub it with a shalot, pour fricassee into it and serve.

BROILED SALMON.—Cut the fish in inch slices from the best part, season well with pepper and salt; wrap each slice in white paper which has been buttered with fresh butter; fasten each end by twisting or tying; broil over a very clear fire eight minutes. A coke fire, if kept clear and bright, is best. Serve with butter, anchovy or tomato sauce.

FRENCH VEAL PIE.—Mince some cold roast veal with a little fat ham; season it highly with pepper, salt, mace and lemon peel; add a large tablespoonful of mushroom ketchup, about two dozen oysters, and a teacupful of good gravy. Line the dish with puff paste, put in the ingredients; cover the pie and let it remain in the oven long enough to bake the paste.

GIBLET PIE.—Stew the giblets in a little water with an onion, two or three cloves, a bunch of sweet herbs, some salt and whole pepper. The remains of cold duck or goose seasoned with pepper, salt, an onion finely minced, a piece of butter rolled in flour should be laid on a plate. When the giblets are sufficiently stewed, take out the onions, herbs and whole pepper, then put them with the other ingredients into the dish. Add a teaspoonful of Worcestershire sauce or Yorkshire relish to a wineglassful of mushroom ketchup to the gravy from the giblets and pour it into the dish. Cover with puff paste and bake for an hour.

COLD VEAL OR CHICKEN PIE.—Lay a crust into a shallow tart dish, and fill it with the following mixture: shred cold veal or fowl, and half the quantity of ham, mostly lean, put to it a little cream, season with white and cayenne pepper, salt, a little nutmeg, and a small piece of shallot chopped as fine as possible; cover with crust, and turn it out of the dish when baked, or bake the crust with a piece of bread to keep it hollow, and warm the mince with a little cream, and pour in.

OATMEAL GEMS.—One pint of oatmeal, one pint of sweet milk; soak over night; then add two eggs, a tablespoonful of sugar, a little salt, a teaspoonful of Horsford's baking powder and half a pint of flour; bake in a quick oven.

SOFT GINGERBREAD.—Three pints of flour, one cupful lard well mixed through it, one teaspoonful salt, one teaspoonful ginger; beat two eggs, add one pint molasses, one cupful brown sugar, one and a half teaspoonfuls soda, dissolved in water, stirred in half a pint sour milk or buttermilk thoroughly; add all to flour; mix well, pour into sponge-cake pans, and bake in a good oven.

ROYAL PREVARICATIONS.

THE TRUTH, THE WHOLE TRUTH, AND NOTHING BUT THE TRUTH.

In the annual report for 1884 of the Department of Inland Revenue of the Dominion of Canada, the chemist, W. Saunders, reports on the results of his analyses of baking powders, and among these reports are included those on the Price Baking Powder, and on the Royal Baking Powder. In this report on page 21, as published by that department reads as follows:

Baking Powder, Price's—Contains matter insoluble in water, 24.16 per cent., consisting of starch, with crystals of tartrate of lime; 10 grammes yield, 36½ cubic inches carbonic acid gas; ash 37.94 per cent., containing 3.74 of matters insoluble in water, the remainder mixed alkaline carbonate. A mixture chiefly consisting of bicarbonate of soda and cream of tartar, adulterated with about 20 per cent. of starch.

Baking Powder, Royal.—Contains 24.80 of matter insoluble in cold water, chiefly starch; 10 grammes yield 33½ cubic inches carbonic acid gas; ash 38.84 per cent., containing alkaline carbonates. A mixture consisting mainly of bicarbonate of soda and cream of tartar, adulterated with about 20 per cent. of starch.

A ROYAL MISREPRESENTATION:

"Here is the truth. The Chief Government Chemist, appointed for the examination of food by the Canadian Government says: Dr. Price's Baking Powder contains matter insoluble in water, 24.16 per cent. consisting of starch and tartrate of lime—a mixture adulterated 20 per cent."

As the Royal Baking Powder Company has deemed it judicious to publish a garbled copy of the report on the Price Baking Powder and carefully omitted the report on its own powder, we have deemed it just to reprint a full copy of these reports as actually printed, and the foregoing garbled report published by the Royal, the official reports headed "Here is the Truth" below. A comparison will enable a fair-minded public to decide on which side the truth is.

A further explanation may be added that the true value of a baking powder consists in its leavening power. In this respect, according to the genuine report, Price's powder gave 4.44 per cent. more carbonic acid gas. The matter insoluble in water, mostly starch, in the Royal, exceeded that in the Price by .64 per cent. The ash in the Royal exceeded that in the Price by .90 per cent. Thus it will be seen that according to this very report, upon the value of which the Royal sets so much store, the Price baking powder is superior to it in all that makes a baking powder valuable, and is only exceeded by the Royal in those matters which are inseparable from a baking powder, but which, if present in excess, are a detriment to it. The chemist gave the Royal unintentionally an unfair advantage over the Price by not stating that the Royal derives considerable of its leavening power from the presence of carbonate of ammonia, a not very appetizing substance, which the Price has never used. It is but just to add that notwithstanding this advantage, which cheapens the powder, the Royal baking powder did not show as much leavening power as the Price, which is not defiled by ammonia, and relies only on cream of tartar. The reference to what the chemist chooses to call "adulterated with about 20 per cent. of starch," applies to both powders, and is easily explained. It is not an adulteration for the purpose of cheapening either product, but is an absolutely unavoidable addition to every good baking powder for the purpose of preserving it.

The following resolution passed by the New York Board of Health will also help to throw light on the methods of the Royal Baking Powder Company:

"Misrepresentation of the New York State Board of Health, by the Royal Baking Powder Co.

"At a meeting of the State Board of Health, held February 11, 1885, it was

"Resolved, That the advertisement of the Royal Baking Powder Company quoting the State Board of Health of New York, as recommending through one of its analysts, its purity, etc., is a misrepresentation. In no case does the State Board of Health or its representatives cause such examination to be made with a view of recommending particular products.

"ALFRED L. CARROLL, M. D.,

"Secretary,"

BUSINESS NOTES.

WATER COLORS.

BEAUTIFUL PORTFOLIO OF PAINTINGS.

The manufacturers of the well-known Scott's Emulsion of Cod Liver Oil are issuing the most beautiful portfolio of Eight Artistic Studies (Birds and Flowers) that has ever come under our notice. This work is worth at least \$2.00, but Messrs. Scott & Bowne, with their usual enterprise, have made arrangements whereby they can supply a copy by mail to any one who will write to them, enclosing 25 cents in stamps or P. O. order. This is a chance seldom offered, and all lovers of art should avail themselves of it. Mention this paper, and address Scott & Bowne, 132 & 134 South Fifth Avenue, New York.

HORSFORD'S ACID PHOSPHATE.

A BRAIN AND NERVE FOOD,

for lecturers, teachers, students, clergymen, lawyers, and brain-workers generally.

LESS SANGUINARY.

The laws of Draco, said to be written in blood, would have been less sanguinary if written with Esterbrook's Steel Pens.

NIEDER-SELTERS-WATER.

The taste of the water is refreshing, mild, a little saltish, effervescent and extremely agreeable; it has no smell if that sensation which is excited in the nose by the carbonic acid rising from the water may not be considered as such. By shaking a half filled bottle a good deal of gas is disengaged; any other odor than that of the carbonic acid is not to be observed. This water has not changed its constituents in any essential for many years. It is sold here just as it comes from the spring and for this reason is to be preferred to the many imported more or less artificial waters.

GELATINE.

The only American manufactory exclusively devoted to making gelatine is that of James Chalmers' Son. This gives it the greatest advantage over all factories where glue is also made, because of the possibility to keep the gelatine pure. Mr. Chalmers was formerly the foreman for Cox in England, hence he knows how to make good gelatine and those who are constantly using it in preference to any other say that it is by far the best.

SLATE ON IRON.—Iron roofs covered with slate are not to be recommended, as the contraction and expansion of the iron trusses are apt to work the slate loose in time and cause trouble.

GOOD ADVICE.—Sir William Gull says that when fagged out by professional work he recruits his strength by eating raisins, and not by drinking wine or brandy. Another good saying from the same source: A pint of warm water, taken on an empty stomach in the morning, is the safest and surest of all remedies for habitual constipation. It stimulates peristaltic action, thereby giving a normal action without pain. If the tongue is coated, squeeze a lemon into the water and drink without sweetening.

ICE IN THE SICK ROOM.—A saucerful of shaved ice, says the New York Medical Times, may be preserved for twenty-four hours with the thermometer in the room at 90 deg. Fahr., if the following precautions are observed: Put the saucer containing the ice in a soup plate and cover it with another. Place the soup plates thus arranged on a good, heavy pillow, and cover it with another pillow, pressing the pillow so that the plates are completely embedded in them. An old jack-plane set deep is a most excellent thing with which to shave ice. It should be turned bottom upward, and the ice shoved backward and forward over the cutter.

COMPULSORY FRAUD.—Georgia Cracker (in Atlanta)—“You say it ain't wuth nothin'?” Storekeeper—“Not five cents. It's confederate money. Where did you get it?” Georgia Cracker—“Hank Uplans passed it on me, 'way back in '62. I've had it in a stockin' up-garret ever since, a savin' of it up.” Storekeeper—“Can't you pass it back on him?” Georgia Cracker—“Not easy. Yer see, Hank kinder held back on givin' of it up, an' I hed t' gun him. He never come to.”

A FINANCIER.—“Dorothy, I think you are dreadfully extravagant to buy all those groceries.” “But, my dear Rufus, I had them charged.”

THE HEALTHFUL EUCALYPTUS.—The cutting down recently of a number of eucalyptus trees in the vicinity of the White House at Washington recalls the fact that the eucalyptus has a distinct sanitary virtue. It has the power of absorbing moisture, thus affording a protection against malarial diseases. Fifteen years ago the Trappist monks, who possessed an abbey in the city of Rome, planted trees of this species, and now have several hundred acres covered with them. The malarial fevers, which were formerly so common there, have now almost disappeared, and the same effects have been noted in those parts of California where the tree has been introduced. There are plenty of other sections of the country where its culture might be profitably attempted.

PHYSICIAN, HEAL THYSELF.—A pharmacist who puts up extensively a preparation for dyspepsia went to the editor of a prominent medical journal the other day, and said: “I want you to recommend me by letter to Dr. B.; the fact is I've got some stomach trouble, and my dyspepsia specific won't take care of it; you were telling me some time ago that Dr. B. was strong on stomach troubles; give me a letter to him.” “Yes,” said the editor, sententiously, “Dr. B. obtained a great reputation in his speciality.” “Well, write me out a letter to him,” said the pharmacist. “I would do so,” said the editor, “but he is out of town.” When will he return? “The fact is,” said the editor, “he died at sea.” “Ah!” exclaimed the druggist, “and what did he die of?” “He died of stomach trouble.”

A STEEL CHURCH.—A German firm has constructed a building for a church of Bessemer steel. It is going to the island of Manilla, where it is necessary to fortify against earthquakes.

MEDICINAL VIRTUE OF PINE FORESTS.—One of the German physicians who has charge of a sanitarium in Germany believes that there is something in the popular notion that the balsamic odors of pine forests are salubrious, and treats his consumptive patients with steam inhalations of pine needles or leaves with good results, as he claims.

JAPANESE GOLD THREAD.—Japanese gold thread, which is used in finer embroidery on account of its elegant lustre, consists of a core of silk or of wool and a spiral envelope of thin gilded paper. The strip of paper is only two-fiftieths to three-fiftieths of an inch wide, and therefore must be wound with great care. The thread thus wound is saturated with shellac and then gilded. Compared to European gold thread these threads possess the advantage of greater flexibility and finer lustre. In this they equal the beautiful gold thread of the Middle Ages, the manufacture of which for a long time was a lost art, and was recently discovered by microscopic investigation.

CURE FOR INSOMNIA.—A writer in the St. Louis *Globe-Democrat* says: “The abuse of the eye is the crime of the age. I am prepared to demonstrate that at least nine-tenths of the prevailing sleeplessness of which we hear so much is due to nervousness directly traceable to the optic nerve. We are wearing our eyes out over books and desks and types, and the effect shows itself, not only in the appearance of the organ itself, but in its retrospective effect on nerve and brain. I have discovered a remedy for sleeplessness, and for the reason I have never known it to fail. I am fortified in my opinion that the whole trouble arises from the overstrain of the eyes. Take a soft cloth—say a piece of napped towel—and fold in it two small pieces of ice at a distance apart to exactly cover the eyes when the cloth is laid across them. Then lie down, adjust the cloth with the ice over the closed eyes, and you will be asleep in a very short while.

Fine Table Wines

From our Celebrated Orleans Vineyard.

And Humphrey & Co.

Producers of the

ECLIPSE

CHAMPAGNE,

530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: P. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alays the thirst, aids digestion, and relieves lassitude.

“Dr. T. C. Smith, Charlotte, N. C., says:

“An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop.”

Dr. J. S. Niles, Pownal, Vt., says:

“Excellent as a tonic, and refreshing as a substitute for lemonade.”

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word “Horsford's” is PRINTED on the label. All others are spurious. Never sold in bulk.

WHOOPING COUGH CURED

Or Prevented by Page's Vaporizer and Cresolene.



We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for **Whooping Cough**, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.

THE
GREAT AMERICAN
TEA
COMPANY

BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM No. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be

particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humberg. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

GAS HEAT.—It is said that 40,000 cubic feet of natural gas are equal in heat-creating power to one ton of anthracite coal.

BRIGHT BRASS.—To keep highly polished brass free from tarnishing cover it with a thin coat of varnish made of shellac dissolved in alcohol. So long as the varnish remains the brass will continue to remain bright. The article should be warm when the varnish is applied.

HYDRAULIC BRICK.—A new hydraulic brick is now manufactured in eight different shades of red and brown, which, on cheap houses, is designed to supply the place of brownstone or sandstone for trimmings. The shades of color run from a rather dark brown to a reddish hue, and at a superficial glance might well be taken for the stones the places of which they supply.

CULTIVATING SPONGES.—An Austrian savant has obtained a harvest of 4,000 sponges which are the result of an experiment of literally sowing small parts of living sponges in a soil favorable to their production. The Austrian Government is much pleased with the experiment, which is to be repeated on a large scale in Dalmatia. The cost of the 4,000, which have been growing for the last three years, is a little over \$55, everything included.

GAS AS A FUEL.—Natural gas as a fuel has been in use about fifteen years. There are now employed in its transmission for fuel purposes 27,350 miles of pipe mains. There are in Pittsburgh 500 miles, which carry a supply to 4,268 private houses, 40 iron-working establishments, 27 glass-working places, 83 foundries and machine shops, and 450 enterprises of different kinds not enumerated. This represents an annual consumption of 7,000,000 tons of coal.

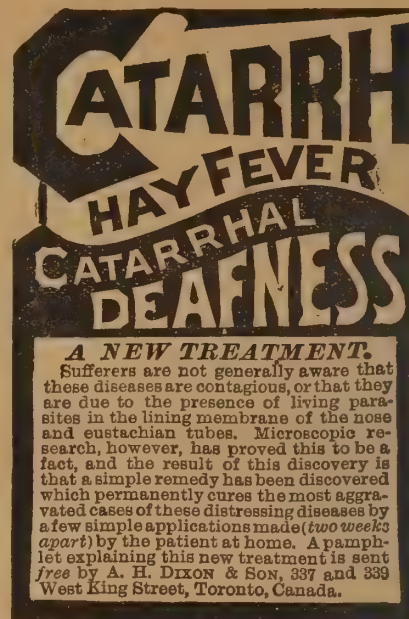
SPONGE DETECTOR.—The Florida fishermen detect the presence of sponges by means of a water-glass, which is a simple contrivance, being a circular piece of glass inserted to the bottom of a bucket. The bucket is thrust into the water, and looking through the glass the sponge hunter can clearly distinguish any object on

the bottom of the sea, even if the water be rough. The sponges are gathered with a pole from eighteen to forty feet long, with a three-pronged iron claw at the end.

SALT CALF.—A farmer named Hilton hired a very inexperienced boy to help about the place. One morning he told the lad to go and salt the calf over in the pasture. The boy took about a quart of salt, rubbed it all over the calf, working it into the hair. A gang of colts in the pasture scented the salt and got after the calf. They licked the hair all off the calf's back, and tried to lick the hide off too. The farmer tried to catch the calf to wash it, but the creature, thinking he wanted to lick, too, kept out of his way. The boy, calf and farmer are all unhappy. The colts are the only ones that got any fun out of it.—*Savannah Republican.*

GOOD SOLICITORS

For Advertisements or Subscriptions can hear of something to their advantage by applying to this office.



**CATARRH
HAY FEVER
CATARRHAL
DEAFNESS**

A NEW TREATMENT.
Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been discovered which permanently cures the most aggravated cases of these distressing diseases by a few simple applications made (two weeks apart) by the patient at home. A pamphlet explaining this new treatment is sent free by A. H. Dixon & Son, 337 and 339 West King Street, Toronto, Canada.



HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME
OF
ON LABEL,
AND GET
THE GENUINE

Stewart Hartshorn

HARTSHORN

SCOTT'S EMULSION

OF PURE COD LIVER OIL WITH

HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects. Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and receives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—unequalled by any single or combined remedy in existence. The rapidity with which delicate children fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

THE
VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS
 Leading Numbers 14,048,128
 130, 135,
 333, 161.

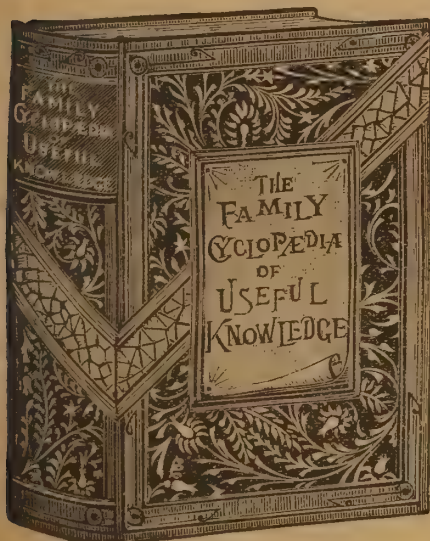
— For sale by all stationers. —
 THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
 WORKS: CAMDEN, N. J.



A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar**. It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

ROBINSON'S SURE CURE FOR RHEUMATISM And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pustules, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist,
125 West 42d Street, NEW YORK CITY, N. Y.
P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

❖ PICTURES. ❖

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,

at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE.

MRS. F. M. G. PENDER,
47 West Twenty-second Street.

LEA & PERRINS' SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

THE AMERICAN ANALYST.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDER.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cookbook, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose purious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar, we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM.

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition :	ALBUMINOIDS.....	19 Parts.
	MILK SUGAR.....	64 "
	FAT.....	10 "
	MINERAL MATTER.....	3 "
	CHLORIDE OF SODIUM added.....	1/2 "
	PHOSPHATES OF LIME added.....	1/2 "
	MOISTURE.....	3 "

SEND FOR SAMPLE and
compare it with every other
food used in artificial feeding of
Infants.

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. A SEDATIVE, NERVE AND BRAIN FOOD.

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

UNEQUALLEDAsk your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.**DELICIOUS**

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand),** in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.**SWIFT'S**

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

**UNION STOCK YARDS,
CHICAGO, ILLS.**

A BUSINESS BENEFIT.**ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.**

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

• The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the AMERICAN ANALYST a good advertising medium. Why should not you?

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price, Analyst.	Price including Regular American Price, Analyst.
American Magazine.....	\$3 00	\$3 25
American Rural Home.....	75	1 05
American Agriculturist.....	1 50	1 60
Art Amateur.....	3 50	4 00
Arthur's Home Magazine.....	2 00	2 00
Art Interchange.....	3 00	3 25
Babyhood.....	1 50	1 60
Ballou's Magazine.....	1 50	1 75
Bedford's Magazine.....	2 50	3 00
Cassell's Family Magazine.....	1 50	1 75
Century.....	4 00	4 25
Christian Herald, N. Y.....	1 50	1 50
Christian Union.....	3 00	3 00
Cottage Hearth.....	1 50	1 50
Country Gentleman.....	2 50	2 50
Current Literature.....	2 50	2 75
Demorest's Magazine.....	2 00	2 00
Family Story Paper.....	3 00	3 00
Farm and Fireside.....	50	1 00
Fireside Companion.....	3 00	3 00
Forum.....	5 00	5 00
Frank Leslie's Illustrated Newspaper.....	4 00	4 00
Frank Leslie's Popular Monthly.....	3 00	3 00
Galaxy of Music.....	1 00	1 25
Gleason's Home Circle.....	2 00	1 50
Godey's Lady's Book.....	2 00	2 25
Golden Days.....	\$3 00	\$3 00
Good Housekeeping.....	2 50	3 00
Harper's Bazar.....	4 00	4 00
Harper's Young People.....	2 00	2 25
Harper's Weekly.....	4 00	4 00
Harper's Monthly.....	4 00	3 50
Household.....	1 10	1 25
Housekeeper.....	1 00	1 25
Ledger.....	3 00	3 00
Lippincott's Magazine.....	3 00	2 50
New York Weekly.....	3 00	3 00
Our Little Ones and Nursery.....	1 50	1 65
Peck's Sun.....	2 00	2 25
Peterson's Magazine.....	2 00	2 00
Puck.....	5 00	4 50
Rural New Yorker.....	2 00	2 30
Saturday Night, Philadelphia.....	3 00	3 00
Saturday Evening Post, Philadelphia.....	2 00	2 00
Scientific American.....	3 00	3 25
Scribner's Magazine.....	3 00	3 00
Vick's Illustrated Monthly.....	1 25	1 50
Western Rural.....	1 50	2 00
Wide Awake.....	2 40	2 60
Yankee Blade.....	2 00	1 50
Young Ladies' Journal.....	4 00	3 50
Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

AVOID LITIGATION! BE YOUR OWN LAWYER!**EVERYBODY'S LAW BOOK.**

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights, and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic law, by a prominent member of the New York bar, containing concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Affidavits, Agency, Agreements, Apprentices, Arbitration and Award, Assault and Battery, Assignments, Attachments, Banks, Bills of Exchange, Checks and Promissory Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardian and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warranty, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executors' and Administrators' Accounts, Interest Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value, and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. EVERYBODY'S LAW BOOK is a large volume of 123 pages, 12mo, with handsome cover. It will be sent by mail, post-paid, upon receipt of only **Twenty-five Cents**. Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

Address,

ANALYST PUBLISHING COMPANY,

19 PARK PLACE, NEW YORK.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

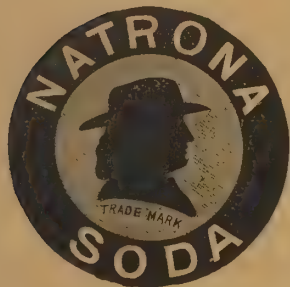
The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequaled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

NEW YORK'S GREAT CHEMIST.

This is to certify that I have analyzed Dr. Price's Cream Baking Powder. I find it composed of pure materials, compounded on correct scientific principles. The ingredients are accurately and scientifically proportioned. Hence, bread or biscuits prepared with it are better suited for digestion.

R. OGDEN DOREMUS, M.D., LL. D.,

Prof. Chemistry and Toxicology in the New York Bellevue
Hospital Medical College. Prof. Chemistry
and Physics in the College of the
City of New York.

COLDEN'S LIQUID BEEF TONIC.

ORIGINAL LABEL:
"Colden's Liebig's Liquid Extract of
Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fuel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M.D., F.R.S., and an endorsement by SIR ERASMUS WILSON, F.R.S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 41.

NEW YORK, THURSDAY, OCTOBER 10, 1889.

WHOLE No. 137

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Darwin Doubted.....	484
Domestic Dietetics.....	484
Editorials.....	481
Cellulose Silk; Exposed and Condemned; Dangers of Tight Clothing; Brains and Success.	
Faith Follies.....	483
Green and Red.....	484
Hat Etiquette.....	482
Training the Mind.....	482
Woman's Work.....	483

CELLULOSE SILK.

Man is gradually developing an ability to dispense with the familiar old-time processes of manufacture in supplying his wants, which is fraught with startling suggestiveness in relation to the future advancement of the race. The latest illustration of this fact that has come to our attention is afforded by a French savant, named de Carbonnet, who it is claimed has discovered how to make silk without worms. He began his experiments some time ago with the guiding idea that the peculiar appearance of silk was the result of the spinning of a liquid. After many months of repeated and unsuccessful trials he produced several yards of silk in this wise: He poured a collodion solution into a copper receiver which emptied into a system of small glass tubes. These tubes terminated in capillaries which carried off the solution in fine threadlike streams. In the second system of glass tubes, filled with water, the fine streams became fine threads, which, before leaving the water were caught mechanically and wound around tiny rollers. After being heated and cooled in an acid of special gravity and temperature, the threads were made less combustible than cotton by being saturated in a simple chemical preparation. The quality of the

silk goods manufactured from these threads is fine. The threads are cylindrical, and are from one to forty micromillimetres in diameter. They sustain a weight of 25-35 kilograms per square millimetre. Ordinary silk bears a weight of 30-45th kilograms per square millimetre. De Carbonnet's silk is much more brilliant than ordinary silk, and absorbs and holds coloring matter more satisfactorily. As yet only a few pieces have been produced by the new process. Several of them are shown in the Paris exposition. De Carbonnet is confident, however, that further experiments will enable him to manufacture silk cheaply and in large quantities. In fact, he thinks that a few years hence the silkworms may as well go and die, as machinery will then be doing their work much better than they can do it themselves.

EXPOSED AND CONDEMNED.

The grave public wrong which the beef inspection conspirators attempt to inflict upon Eastern consumers, through the instrumentality of mistaken legislation, has been happily frustrated by the prompt submission of the subject to judicial investigation by the parties whose immediate interests were thus sought to be attacked. The Minnesota decision, reported in our last issue, was, we believe, the fourth declaration of the courts in that State that the inspection law is unconstitutional. And in several other States, wherever, in fact, the courts have been resorted to on the subject, similar judgment has been rendered. The *Dispatch*, of St. Paul, commenting with just severity on the final overthrow of the conspiracy in Minnesota, says: "It needed but little legal acumen at any time to distinguish the animating principle of this legislation which is so readily condemned by all the judicial officers to whom it has been submitted. An exercise of the police power of the State it has been called by its friends. Its verbal framework was fashioned somewhat skilfully in order to impose that false belief on those who examined it; but appeals to local sentiment were thought to be so fruitful of good to its authors that they thoughtlessly expressed in public and without seeming equivocation, time after time, their true object, viz.: the securing to themselves of a monopoly of the sale of slaughtered meat within this State by excluding the like products of other States. What did it matter to them whether meat were inspected on the hoof or on the butcher's block, so long as there was practically no meat to inspect but that which they purposed selling? Twenty-four hours was the interval established by them between the inspection of the beast and the offer of its carcass for sale. Was it thought that dangerous disease might develop itself in that brief interval? Or was it that the adoption of a longer period might render their pet scheme unavailable? Whatever might have been their avowed purpose, the courts refused to accept them in their self-assumed characters, as guardians of the public health, have stripped them of every shred of the

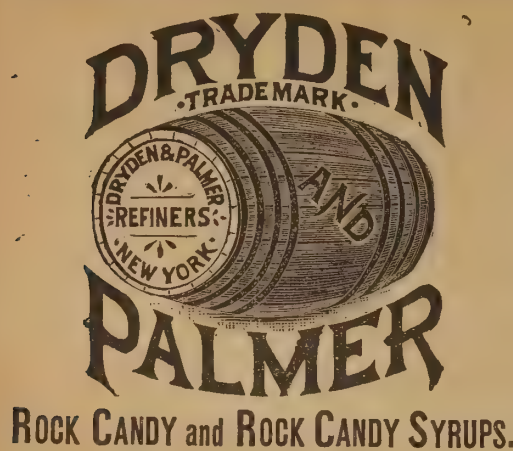
false pretenses with which they sought to cover themselves and have revealed them to public view as a knot of would-be local monopolists who cared nothing for the restraints which are imposed by either law or morals upon responsible citizenship."

DANGERS OF TIGHT CLOTHING.

Now that rational ideas as to dress have acquired a definite place in public esteem, it may be imagined that the practice of tight lacing and customs of a like nature, if known at all, are not what they used to be. A case of sudden death lately reported proves that it is still too early to indulge in such illusory ideas. The deceased, a servant girl of excitable temperament, died suddenly in an epileptoid fit, and the evidence given before the coroner respecting her death attributes the fatal issue to asphyxia, due in a great measure, to the fact that both neck and waist were unnaturally constricted by her clothing, the former by a tight collar, the latter by a belt worn under the stays. We have here certainly those very conditions which would lead us to expect the worst possible consequences from a convulsive seizure. There is no organ of the body whose free movement is at such times more important than the heart. Yet here we find, on the one hand, its movement hampered by a tight girdle so placed that it could with difficulty be undone at a critical moment; on the other, a contrivance admirably adapted to allow the passage of blood to the brain, while impeding its return. This is no isolated case as regards its essential character, though, happily, somewhat singular in its termination. Minor degrees of asphyxiation, we fear, are still submitted to by a good many of the self-torturing children of vanity. The tight corset and the high heel still work mischief on the bodies of their devoted wearers. Taste and reason, indeed, combine to deprecate their injurious and vulgar bondage, and by no means unsuccessfully. Still the evil maintains itself. Cases like that above-mentioned ought to, if they do not, open the eyes of some self-worshippers of the other sex, who heedlessly strive by such means to excel in a sickly grace. We would strongly impress on all of this class the fact that beauty is impossible without health, and would advise them, in the name of taste as well as comfort to avoid those methods of contortion, one and all, by which elegance is only caricatured, and health may be painfully and permanently injured.

BRAINS AND SUCCESS.

One of the universal and dominant problems of life is how to achieve success. Some sensible suggestions on that point relating especially to mechanics are offered by the *Northwestern Mechanic* which we reproduce in condensed form: The man who is to succeed as a mechanic, the writer concludes, must be a queer mixture of go-aheadness and conservatism. He must stick to the old ways, and yet be alive to all that is new and



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

savors of advance. To hold to old methods and practice is to be left behind in the race, while to adopt everything new that presents itself would quickly relegate to failure the unfortunate who attempted it. To sift out what is good, and to reject the worthless, is the problem the successful mechanic has to solve. It is but a continual example of the truth of Darwin's theory of the "survival of the fittest." The mechanic preserves the best methods, and is in turn kept alive by the very methods he has preserved and put to work. The successful mechanic was enabled to succeed because he possessed the faculties of perceiving what was useful and what was worthless. Once this point determined, the rest is easy. The good is to be kept, the worthless discarded, but in knowing what to keep lies the secret of success. Must the necessary qualities be born in a mechanic or can he be educated to it? Both. To be a successful mechanic a man must possess certain characteristics, but many kinds of men will make good and successful mechanics. To begin with, the would-be success must be a thinker. He must be able to reason clearly from cause to effect, and instead of sitting down and waiting for something to turn up, he must think out ways and means of forcing the desired results from the material at hand. He must be able to make the best of things, and all the "born-in" characteristics necessary is that aptness for mechanics without which no man can put his heart and soul into it as a life work. Some men are better mechanics than others. They obtain better results from the same material than some of their co-laborers. The reason of this is that the men in question are better adapted to the work they have to do. In other words they are the "fittest," and will survive accordingly. They succeed better than we do because they have better things to work with, brains included. We might do better should we think more and study out better methods and opportunities.

TRAINING THE MIND.

WHAT CONSTITUTES THE BASIS OF A SCIENTIFIC EDUCATION?

Without discussing the question of public *versus* private education, or the wisdom of the immense expenditure of public money in this direction, which is universal in this country, it will be admitted by everyone that the results of our systems of elementary education are not commensurate with the money and labor expended upon them. The first essential in a scientific education is that the child should learn to read, write and perform the simplest arithmetical calculations. This knowledge is equally necessary for all, and it is eminently proper that the first years of school life should be, as is usually

the case, almost entirely devoted to those branches. But once they are attained, the unfortunate pupil is crammed with an intellectual hash of dead and living languages, grammar, geography, mathematics, literature, physiology and hygiene, mental philosophy, ancient and modern history, book-keeping, evidences of Christianity, natural and physical science, and a hundred other studies, of which no one mind could digest the hundredth part, until graduation day or brain fever brings the long-desired relief. Such a pupil, if he survives after being graded "perfect" in physics, will, very likely, take stock in the Keeley motor, or some similar scheme; or, after completing his course in mental philosophy and physiology with honors, become an ardent believer in the mind cure. Such an education will, undoubtedly, give a thin veneering of culture to those possessing it, but to our mind, what is much more to be desired is an education which will best develop the intellectual faculties to the full extent of their varying powers in different individuals, and fit them to be of the best use to their possessors in the infinitely differing conditions of their after life. The conditions of adult life are different in almost every individual, and it is the height of absurdity to hold that any one, or even a dozen fixed courses of study, will be of direct practical benefit to the pupils who take them. The object of preliminary education—that is up to the time when the college course is usually commenced—should be to give a good solid foundation, upon which the individual himself must erect the superstructure as the circumstances of his after life may determine. A scientific education then, should be one in which the observing faculties are trained to the utmost accuracy, so that a true and accurate comprehension of facts may be obtained, and next the reasoning faculties so developed that the logical value of the observed facts may be properly estimated. Very few persons are able to properly observe and comprehend any unusual occurrence. Let a teacher question the members of his class separately in regard to any circumstance which may have happened out of the common course, and the chances are that he will have as many different accounts as there are scholars who saw it. Let him ask their opinion upon any political or social question of the day, and in nine cases out of ten, the answer will simply be the opinion of some older person, or of their favorite newspaper,—somewhat changed in language, it is true, but without the slightest trace of any independent thought. Now it is just these deficiencies, which are common to every untrained mind, that it should be the object of education to remove, and the question arises as to what course or system of study is best for this purpose. It is impossible to lay down any rigid course, or certain definite studies suitable for everyone; the individual tendencies of each student must be taken into consideration, and it is as much the manner in which the instruction is given as in the subject itself which determines success or failure. One pupil may excel in mathematics—an excellent discipline for the reasoning faculties alone,—while another may be unable to comprehend a simple algebraic formula, and yet have a wonderful knowledge of the habits of animals and plants, or spend all his spare time experimenting with chemical substances and such scientific apparatus as he may be able to procure. Even the dead languages may be made useful although we must confess to thinking that, in a practical or scientific method of education, a very little Greek or Latin will go a great way. Admitting then, that the individual peculiarities of a child's mind must be considered first of all, we would recommend the study of the laws, phenomena, and forces of nature as of the very highest value as a means of mental discipline, to say nothing of their eminently practical value. They all rest on a basis of absolute fact, and when once they are properly comprehended and their logical value estimated, the student has acquired something definite, and not,—as in the purely literary studies—something that rests merely upon the opinion of some one else, and liable to be changed at any time. The pupil should be introduced at an early age to the great kingdom of

Nature about him, and taught to observe the animals and plants, the rocks and minerals, and the heavenly bodies, and to note their habits, characteristics and movements. Later on he may be taught the laws governing them, but always with the idea that he is to do the work himself, and not to blindly accept what the teacher may tell him. The essence of science is skepticism. He should undertake original work from the very beginning, even if it is of the most simple kind, for every fact observed, every effect reasoned back to its cause, is of indefinitely more value to him than pages of text-books committed to memory, only to be forgotten after that useless relic of mediæval barbarism, the "examination." Physical geography, geology, mineralogy, and botany can always be illustrated in one's own locality, and the connection between the most ordinary actions of life and the great fundamental principles of nature should always be impressed upon the mind. Physiology and anatomy should be given a place in such a course, and taught for their scientific value, and not for the purpose of indoctrinating the ideas of any particular class of reformers. Elementary mathematics are a most admirable mental discipline, if the student is capable of comprehending them and the French and German languages are of the highest practical value; but the main object should always be to teach the student to observe and reason correctly, and when this is accomplished, he is ready to take up and study intelligently and profitably such other advanced courses—whether literary, artistic, philosophical, mathematical, linguistic, or technical—as his natural predilections may indicate, or the circumstances of his after life require. Everyone, must after all, educate himself, and the true function of the teacher is to direct and guide the efforts, and not to cram the mind with a certain amount of knowledge in a given time, with the sole end in view of having his pupil attain a certain "percentage," or pass a formal examination.—*Pop. Science News.*

HAT ETIQUETTE.

WHY SHOULD NOT LADIES BE AS COURTEOUS AS MEN?

A friend of ours was recently at work in the Astor Library, and, feeling a draught of cold air on the top of his bald head, put on his hat. One of the library attendants thereupon requested him, courteously, to remove it, though upon the explanation being given, the request was as courteously waived. Why the wearing of the hat in the library is not permitted to men as well as to women it is difficult to explain, except upon the ground that the library is a sacred place, like a church, and disrespect must not be shown to it. But even on this ground the taking off of the hat has a purely conventional and arbitrary significance. In a Hebrew synagogue it is esteemed a discourtesy, and it is not much more than a century since the wearing of one's headgear was as customary in the drawing room as it is now out of doors. Old prints and pictures of interior scenes represent the men as well as women with hats on, and in several of our fashionable clubs the men wear their hats as freely as they do in the street. In a church, or in a theatre, the reason for taking off the hat is obvious, though why it applies to men only and not to women is not so clear. In the better class of theatres and opera houses in Europe women are not permitted to wear their hats any more than men are, and in the old days only veils and not hats were allowed to be worn by the women who attended the services of St. Peter's Church at Rome. This, also, was a purely arbitrary conventionality. Complaint has been made long and bitterly of the inconvenience caused to the spectators in American theatres by the tall hats of the women. It would be easy to remedy the evil by providing a place where the offending articles of dress could be left during the performance, and sooner or later no doubt it will be done. Already the wearing of full evening dress by men at theatres and concerts as

well as at the opera has become very prevalent, and it would not be much of an advance if women, likewise, would show their pretty heads at such entertainments unencumbered by the disfiguring and wrath-provoking hat.—*N. Y. Sun.*

FAITH FOLLIES.

CURRENT EXPOSURES OF CRIMINAL CHRISTIAN SCIENCE,

Fatal Result of Consistent Faith Reliance.

Miss Karen Olsen, age twenty-eight, died last week at her home in Vermont-ave., Brooklyn from typhoid fever, and Dr. Richard Burns, of Hinsdale street, gave a death certificate. It is alleged that she refused to take the medicine prescribed for her and depended upon faith cure. She was a Scandinavian, and her case was similar to that of Miss Martha Olsen, who died recently in the same way in South Brooklyn, but the two women were not related. Dr. Burns was called in to save a coroner's inquest. He had previously attended a young man sick with the same fever at the same house. The patient in this case also refused to take the medicine, but recovered. Dr. T. P. Norris was first called to attend the woman but was first told by her brother that she would not take medicine, but his attendance was desired so that if she died there would be no need of an inquest. He refused to go at first, but when told that he might persuade her to take a remedy, consented. She did not take the medicine and he did not go to see her again.

Why do not the Authorities Act?

The *N. Y. Mail & Express* of Oct. 1., sums up the question of responsibility of the faith lunatics in the following terse sentence: "The 'Faith Curists' have just killed another woman in this vicinity by their idiotic nonsense. It is time that the officers of the law took cognizance of this sort of murder."

THE PROBLEM OF WOMAN'S WORK.

A SERIOUS QUESTION THAT STILL LACKS ADEQUATE SOLUTION.

Although the avenues of employment have multiplied, it is still difficult for a woman brought up in what is called good society and left suddenly destitute and self-dependent to earn her own support. Our older readers will recall the time when a few of the more robust of this class were shut up to the alternative of taking in washing or opening a boarding house, while the frailer ones became brides of the needle and spent long hours in the weary round of "stitch, stitch, stitch," at wages that hardly kept the wolf from the door. The organized laundries, and, more than all, the cheap ready made collars and neckties, cut down the opportunities of the washerwoman, and still later the Chinese experts left but little to do in this chosen line. The boarding house keeper has found some interference with her occupation from the cheap flats, easily furnished, where a young married couple may maintain a "respectable" appearance without a servant and at moderate expense. But housekeeping, even with such conditions, has no charms for a large class of newly married people, and the boarding houses maintain their rank in the community. The renting of furnished rooms without board, or with a simple breakfast to the occupants, has been a growing business, and has given more congenial employment than the ordinary boarding house to many women who must earn their living. The old class of sewing girls has almost wholly disappeared. The machines gave them a lift at first, but now these are most profitably run by machinery, and the operators are brought together into establishments furnished with steam or other power to do the harder part of the work. The very cheapest of ready made clothing is still given out in large quantities to be made up at home by those engaged in this service. The public have little idea at

what small rates such garments are produced. But it is not now the single woman in a lonely garret who operate upon these; whole families take the fabrics cut out by the gross and return them finished for the dealer to sell. The father, mother and children are often employed in this way, and the household together contrive to make both ends meet. We know a few "lorn, lone women" who work by themselves on these cheap garments, but do their best, and take no idle hours. The utmost they can earn, spent with great care and economy, will only just keep them from actual starvation. The opening of shops and factories has given a large amount of employment to the weaker sex, but these places are mostly filled by young girls, many of whom board at home. Few of these brought up in idleness, or with no call to work, and then suddenly bereft of their support, drift into this service. We cannot say why, but even where steady work, and wages that will supply comfortable food and clothing are offered in a manufacturing establishment, the woman who has looked upon herself as a "lady" does not take to it. It may be the uncongenial companionship, but it is probably the being one of many in an undistinguished crowd from which she shrinks. In some shops the rude, coarse laugh and the vulgar manners, even where nothing can be brought against the moral character of those employed, are sufficient to make the association intolerable. The typewriter opened a rare field for the enterprising young woman bent upon self support. A large number who have become proficient have steady employment at good wages. When a quick-witted girl adds the gift of taking shorthand notes from the lips of her employer, and then writing them out after he has finished the declaration, she may be certain of a place that will enable her to live comfortably and lay by a portion of her earnings. The great difficulty in this and in many other avenues of employment is that those who are engaged do not look upon the service as a life work. Few of the sex are content with the prospect of perpetual maidenhood. They work in waiting for a call to be married. This is one reason why so few young women are wholly devoted to their chosen task, and explains, in part, why the same wages are not paid to them as are given to the other sex. To a man, a change in his domestic relations brings no necessary interference with his occupation, while few young women expect to hold to their employment beyond the years to be reckoned in the near future. The painting of china gave many gifted women an opportunity of pleasant employment at remunerating wages. We think if they would persevere in it, and not give up the task when it becomes a drudgery, they might continue to find it profitable. We know of a number that worked steadily at the ornamentation of plates, tea sets, pitchers and vases while the novelty lasted and they were paid fancy prices for their skill. But when it became necessary to bend to the task day after day, giving six or eight hours of hard labor for only a dollar or two of pay, they gave up in disgust. Plates at fifty cents or a dollar apiece, and plaques at three or five dollars were very well, but to do steady work on dishes to be counted by the dozen and only to earn eight to ten dollars for a whole week of hard work was discouraging. And yet it is by such persistent toil that most laborers in this world earn their daily bread. A few who are not only real artists, but downright industrious women, willing to eat their well earned bread in the sweat of their face, have made a good living, year after year, decorating card cases, Christmas and Easter tokens and other articles to be sold in the shops. Those who expect to do a little fancy work when they feel like it, and to sit idly by bemoaning their sad fate during most of the flying hours, will not earn a livelihood at anything, no matter how promising the opening may seem. We cannot speak as we would of the training school for nurses, which have not only given employment to so many in the care of the ill and the wounded, but have removed so largely the discomforts of the hospital and the sick chamber, for these are deserving of a chapter by themselves. It

is a blessed service for those who give and those who accept it. Nor have we space in this article to speak of the work of education, in general so largely committed in this country to hands that perform the task so well. We say nothing of domestic service, for it is useless to recommend the kitchen to American girls. Some women with brains have started little establishments of their own where they execute orders for preserves, pickles and sweetmeats at paying prices, but few have sufficient business tact to manage such an undertaking. To go out to service in the household of another is the best paying work for the woman of average strength and ability in the United States, but no amount of persuasion will induce the class we have described to undertake it. A comfortable home where food and raiment are secure, where with rare exceptions they are protected from insult and shielded from temptation, and may earn enough to have a snug account in the savings bank, would be open to every one competent to do ordinary housework if she would accept it in the proper spirit. If for the clumsy fingers that waste the china, and the unskillful hands that spoil the marketing in so many pantries and kitchens, there could be substituted the deft manipulation of well taught native-born housekeepers, who would pride themselves upon their ability to make the dwelling of their employer a place of comfort and repose, a new era would dawn on this land so highly favored in all else that makes a happy home. But the American citizen is a Ruler, and the daughters of a king will not become servants and give to another the title of master or mistress. They hold it to be more noble to starve in a garret, or to be fed by the hand of charity, than to grow fat in the kitchen. If we are to have servants at all, we must import them from other lands.

MOUNTAIN OYSTERS.—What is considered one of the most unaccounted for sights in Utah is a mountain about thirty-five miles north-east of Salt Lake City, occupying an area of about thirty acres, and completely and thickly covered with oyster shells. The mountain is between 300 and 400 feet high, and situated over 4,000 feet higher than Salt Lake City, which is 4,300 feet above the level of the sea.

HEART ELECTRICITY.—Dr. Augustus Waller, of Philadelphia, has recently made a number of experiments showing that it is possible to detect, by existing electrical instruments, the electric currents generated at each beat of the heart. Two people holding each other by the hand, and connected with a capillary electrometer, give evidence of electrical shocks through each other. The hands of a single subject, dipped into two basins of water in connection with the electrometer, give a deflection of the instrument at every beat of the pulse.

REMEDY FOR SNAKE BITES.—L. G. Lincecum, M. D., writing from Texas, says: "Permanganate of potash is a successful remedy. I have treated more than one hundred cases in Texas, and have used whiskey, soda bicarb., spt. ammonia, turpentine, chloroform and other remedies, but have found that potas. permanganas in one or two gr. doses hypodermically, and chloroform, locally and by inhalation, are undoubtedly the most certain and successful remedies in bites of venomous reptiles I ever used. I have never seen a case treated with these two remedies result fatally."

WINDOW DECORATION.—The decoration of store windows is getting to be more and more of an art in New York, and all the large firms in the retail dry-goods business have some one employed at a good salary to make their show windows attractive. The work is done mainly in the night time, but also in the daytime, before and after the hours of opening for business. The largest salary paid by any individual house to a window decorator is \$4,500 a year, and there is but one man in New York receiving that amount. He is said to be unapproachable in his particular line, and might command even higher pay but for a disposition to look upon the wine when it is red. Twenty-five hundred a year is regarded as a fair salary for a good window decorator, and there was a man who made several thousand dollars annually by travelling from city to city and arranging show windows by the job. Dry-goods dealers have great confidence in the effect upon customers of a finely decorated window.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

October.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

VEGETABLE SOUP-STOCK.—Clean and cut up three or four pounds of carrots, celery, turnips, onions, lettuce, parsnips, and herbs; put them altogether in a stewpan, with some fresh butter and a little water, and stew until the water is evaporated and the butter begins to hiss then fill up with fresh water, add nutmeg, pepper, salt, and a few green peas; simmer for three hours; strain and keep in a stone crock in a cool place until wanted.

CHOPPED CLAMS.—Scald fifty small clams, drain and chop them very fine. Butter a number of small dishes or, if obtainable, some fine clam shells, and in them put a thin layer of fine bread crumbs, then a layer of chopped clams, a few small pieces of butter, a sprinkle of chopped parsley and a dust of black pepper; then a layer of bread crumbs and another of clams, and so alternate until you have the desired quantity, the last layer being bread crumbs, upon which lay two or three small pieces of butter; pour in a little rich cream, arrange your scallops in a baking pan and cook in a moderate oven until the tops are of a delicate yellow color; send them to table as hot as possible.

LOBSTER CUTLETS WITH TOMATO SAUCE.—Chop up the meat of two or three boiled lobsters, add to it the yolks of two eggs, half a teaspoonful of salt, a salt-spoonful of white pepper, two ounces of butter, and a tablespoonful of grated bread crumbs. Mix and shape the mixture in the form of cutlets; dip them in beaten egg, roll them in crumbs and fry in very hot fat. Send to table with tomato sauce.

TOMATO OMELETTE.—One pound tomatoes, one pound bread crumbs, one large Spanish onion three eggs, two ounces butter, cayenne and salt to taste. Melt the butter in a saucepan, add the onion chopped small, with a little cayenne and salt (no water); let it cook for twenty minutes before adding the tomatoes, stirring occasionally, but not keeping the saucepan lid off longer than necessary. Scald and skin the tomatoes, cut them into small pieces, add to the onion, and let simmer together for about half an hour; pour the whole over the bread crumbs in a large basin, mix together, then add the eggs, well beaten, and turn into a shallow tin or tins, previously well buttered. Bake in a quick oven for about ten minutes.

WAFERS.—Take five cupfuls of flour, one cupful of sugar, and two-thirds cupful of butter; rub butter and sugar to a cream, mix with the flour, add two well beaten eggs, half a cupful of sweet milk, one teaspoonful soda, stir all together, roll very thin, and bake.

HOT MUSTARD SAUCE FOR FISH OR MEAT.—Mix together one teaspoonful of flour, one of sugar, four of mustard, the yolks of two eggs and two teaspoonfuls of vinegar. Melt two ounces of butter, add to it the above ingredients, and stir unceasingly until the same boils. Add water or vinegar, if too thick; it must pour creamy. Sliced gherkins may be added.

RICE CAKE.—Beat a half pound of butter and one pound of sugar together, add to them rose-water to taste, then nine well-beaten eggs, and lastly one pound ground rice. Bake in shallow tins.

DOUGHNUTS.—One egg, one cupful milk, one cupful sugar three pints flour, three teaspoonfuls of Hossford's baking powder, one egg, one teaspoonful of butter, a little nutmeg. Fry in boiling lard.

GREEN AND RED.

AN INGENIOUS TEST FOR VISUAL MALINGERING.

In a large factory a workman in wielding his hammer carelessly allowed it to slip from his hand. It flew half across the room, striking a workman in the left eye. The man brought suit in the courts, and although an eminent oculist, after an examination, declared that no apparent injury could be detected, claimed that his eyesight was destroyed, and refused all offers of compromise. As the law requires owners of factories to pay all claims for damages resulting from injury during work, the owner, though confident that the man was shamming, had about made up his mind that he would be compelled to pay the claim. On the day of the trial a further test was made. The oculist for the defence had a pair of glasses made, the right eye being of red and the left eye of ordinary glass. He brought also a black card with a sentence written on it in green ink. The plaintiff was ordered to put on the glasses and read the sentence, which he readily did, thus proving himself a perjurer, as the sound right eye, being fitted with a red glass, could not distinguish the writing,—the combination of green and red producing black, which, on a black ground, was of course not visible,—and the left eye, which he claimed was blind, was the one with which the reading had been done.

DARWIN DOUBTED.

PROF. VIRCHOW SAYS THAT THE PROOF OF HIS THEORY
IS STILL LACKING.

Some sensation has been caused at the recent Anthropological Congress in Vienna by the speech of the great Berlin biologist, Prof. Virchow. About a year ago Virchow, on a similar occasion, made a severe attack on the Darwinian position, and this year he is similarly outspoken. We make the following extracts from his long address to the Congress: "Twenty years ago, when we met at Innsbruck, it was precisely the moment when the Darwinian theory had made its first victorious mark throughout the world. My friend Vogt at once rushed into the ranks of the champions of this doctrine. We have since in vain sought for the intermediate stages, which were supposed to connect man with the apes; the proto-man, the *pro-anthropos*, is not yet discovered. For anthropological science the *pro-anthropos* is not even a subject of discussion. The anthropologist may, perhaps, see him in a dream, but as soon as he awakes he cannot say that he has made any approach toward him. At that time in Innsbruck the prospect was, apparently, that the course of descent from ape to man would be reconstructed all at once; but now we cannot even prove the descent of the separate races from one another. At this moment we are able to say that among the peoples of antiquity no single one was any nearer to the apes than we are. At this moment I can affirm that there is not upon earth any absolutely unknown race of men. The least known of all are the peoples of the central mountainous districts of the Malay Peninsula, but otherwise we know the people of Terra del Fuego quite as well as the Eskimo, Bashkirs, Polynesians and Lapps. Nay, we know more of many of these races than we do of certain European tribes; I need only mention the Albanians. Every living race is still human; no single one has yet been found that we can designate as Siminian or quasi-Simian. Even when

in certain ones phenomena appear which are characteristic of the ape—e. g., the peculiar ape-like projections of the skull in certain races—still we cannot on that account alone say that these men are ape-like. As regards the lake dwellings, I have been able to submit to comparative examination nearly every single skull that has been found. The result has been that we have certainly met with opposite characteristics among various races; but of all these there is not one that lies outside of the boundaries of our present population. It can thus be positively demonstrated that in the course of 5,000 years no change of type worthy of mention has taken place. If you ask me whether the first man were white or black, I can only say I don't know." Prof. Virchow summed up the question as to what anthropological science during the last forty years has gained, and whether, as many contend, it has gone forward or backward. "Twenty years ago the leaders of our science asserted that they knew many things which, as a matter of fact, they did not know. Nowadays we know what we know. I can only reckon up our account in so far as to say that we have made no debts; that is, we have made no loan from hypotheses; we are in no danger of seeing that which we know overturned in the course of the next moment. We have levelled the ground, so that the coming generation may make abundant use of the material at their disposition. As an attainable objective of the next twenty years, we must look to the anthropology of the European nationalities."

STOP THAT COUGH!

At this season of the year, when the summer is said to die in the arms of winter, humanity is apt to celebrate the fact by coughs, colds or some one of the endless variety of respiratory and muscular disorders which are so prevalent in the autumn. There is little or no excuse for this state of affairs, inasmuch as there is no reason physiologically why a man should not enjoy the same health in the fall as at all other times of the year. All that is needful to this end is a knowledge of how to meet the change in temperature and how to keep the body under the circumstances. Common sense will teach these, just as well as the most learned scientist or the most expert physician. In the first place, the clothing should conform to the weather. The low shoes, moccasins and fanciful footwear of the summer should give place to something heavier and more substantial. A well made shoe, fitting well, but not too closely, and of moderate weight is the best and only form of footwear which can be recommended. The underwear should be changed from gauze, light-weight merino, jean, linen or cotton, to woolen. The best are those which are closely woven, soft and uncolored. Colored underwear should be viewed with suspicion. Nearly all colors wash out and leave a dingy and dirty-looking fabric behind. A few stain both the body and the outside clothing, while some are dyed with poisonous bodies, such as fuchsine, arsenic compounds, and chromates. The best of all are the unbleached wools. The natural color is a pale gray, yellow or brown, which never changes its hue and is always neat and attractive. There will, of course, be outcries against this advice by those who favor cotton, linen or silk for their hosiery. They are wrong, nevertheless, from every standpoint. All three of the materials named, whether in their natural form, or whether as Lisle thread, Balbriggan or linen and cotton mixed, chill the feet, condense perspiration, clog the pores and interfere with the circulation. Heavy knitted yarn or worsted stockings are a trifle but not much better. The only sensible kind are smooth merino, camel's hair, or goat's hair of medium or light weight, according to the taste of the wearer. In this case, as with underwear, the natural color is far preferable to those given by the dyer and manufacturer. In diet a man should use heavier and more heat-giving foods than he does in summer. Nature sets a good example in cutting short the supply of acid and sub-acid fruits and vegetables the moment that the leaves begin

to turn. For the tomato, green pea, sweet corn and butter-bean, she substitutes the potato, carrot, field corn and white bean. These latter are not so aperient, and are far more calorific. So with meats. Spring lamb, veal and suckling-pig now give place to mutton, beef and pork. In the daily bill of fare, the wise housekeeper follows this suggestion and introduces such dishes as wheat cakes, sausage, corn meal bread, buck-wheat and the like. Coffee, chocolate, cocoa and broma should replace the iced tea, lemonade, raspberry, vinegar and mineral waters so much in vogue in July and August. Of course, there is no absolute rule in these matters. Personal tastes and preferences rise superior to anything that can be laid down as a principle of eating or drinking. While the suggestions made apply to nine out of ten the land over, they do not apply to the tenth. Whoever has a craving or aversion for a certain lot of foods or drinks should follow the dictates of their own bodies, unless, as is frequently the case, they are the victims of disease or morbid action. In the latter case, their duty is to consult a physician. In all other cases let them follow the wishes of their palates, at the same time bearing in mind the principles heretofore enunciated. Last and most important, keep the blood and system free from impurities. To those who enjoy perfect health, this advice is needless. But the number of these is so small as to be insignificant. The vast majority, from the necessities of modern life, are compelled to pursue courses which result in filling the blood with humors. These persons should keep a careful eye upon their bodies, and at the first indication of physical ailment, whether it assume the form of pimples, rash, eruptions, coughs, colds, rheumatism, diarrhoea, dysentery, dyspepsia, malaria, headache, insomnia or nervousness, should use a blood purifier to remove or destroy the cause of their trouble. Of the many preparations useful in this regard, the one which has received the unanimous approval of the scientific and medical world is the famous Sarsaparilla compounded by Dr. Ayer, of Lowell. This dispels every humor from the body and restores health and strength in every regard. It is not so much a cure for disease as a preventive of disease. In the fall its use prevents absolutely the coughs, colds and other ills which are then so common, so dangerous, and often so fatal.

UP IN THE SKY.—First Cloud—I believe I am wasting away.

Second Cloud—You do look dissipated.

CHARACTERISTIC.—First Chicago Citizen—Laker referred to you as a hog last night.

Second Chicago Citizen—That's just like Laker—always talking shop.

PLEASANT COMPANION.—Smith (to vis-a-vis)—Nice day. (No answer.)

Smith (persistently)—Nice day, I say.

Traveller (gruffly)—That doesn't make it one because you say so.

THE SUNFLOWER.—Kansas proves that the home of the sunflower is the meeting place for all that is best in American agriculture. The Sunflower State is the representative State, and the sunflower, bold, bright, pushing, and high-headed, ought to be the national flower.

HE KNEW.—Teacher (to class in arithmetic): "John goes marketing. He buys two and a quarter pounds of sugar at eleven cents a pound, two dozen eggs at sixteen cents a dozen, and a gallon and a half of milk at twenty cents a gallon. What does it all make?" Smallest boy (hugging himself ecstatically): "Custard."

THE WIZARD'S PREDICTIONS.—Thomas A. Edison asserts that in a few years the world will be one gigantic ear. Nobody will then dare to gossip, for fear of being overheard by a concealed phonograph. Surely such a condition would mark a long step towards the millennium. If the harm done in the world by indiscreet tongues could be estimated, it would be found that the misery of the human race is to a great extent due to the misrepresentations of people who would rather talk malicious nonsense than remain silent.

LIQUID STONE.—August Boorfried, a Minnesota stone mason, says he has discovered a process by which granite, marble, cobblestones—if you please—may be liqui-

fied and run into molds. Mr. Boorfried has come to New York to interest wealthy capitalists in his strange invention. He says mankind ought to be able after a while to live in translucent houses, so that the whole neighborhood will know, by the soft glow that will permeate the walls, every time a lamp or a gas jet is lighted. He proposes to provide this translucent building material.

POWERFUL STEAM.—The new fire boat which New York will have next spring will be one of the nautical wonders of the port. She is to throw four solid four-inch streams of water, and the range of these streams will be from 350 to 450 feet—solid water not spray. It is asserted that the firemen can bore through the brick and stone walls along shore with ease with these streams just as miners in the mountains bore into and wash down the faces of solid cliffs with streams carried down the mountain sides. To fully comprehend the power of a four-inch stream it should be remembered that it is from eight to twelve times as large in cross section as the streams from the ordinary fire engines, while the nozzle velocity of the water is several times greater. The efficiency of such a stream is probably twenty-five times as great as the stream from an ordinary engine. The new boat will flood out a fire as with a deluge anywhere within 2,000 feet of the water front.

Any Book published can be procured upon application to

ANALYST PUBLISHING CO.,

19 Park Place, New York,

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHIEMIC conditions. In these cases the result of following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPER-ÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTER OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTER OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

BUSINESS NOTES.

TABLE DELICACIES.

To establish and maintain a reputation for table delicacies such as Gordon & Dillworth have succeeded in doing, demands first class goods, conscientiously and carefully preserved and packed by experienced hands. It also implies the unalterable purpose, no matter at what loss, to have only the best goods go out under the brand. This has always been the practice of this house, consequently they have obtained such popularity for their goods that they are constantly complaining that their orders exceed their facilities for manufacturing. Though they have repeatedly enlarged their premises they are not able to supply every demand and they cannot well increase the supply even with their increased facilities, because they adhere to the rule that everything must be done under the personal supervision of a member of the firm.

A SURE CURE.

An editorial in the *Wayne Co. Courier*, published at Detroit, Mich., September 16th, 1886, states as follows: "There is probably no disease to which mankind is heir which has brought out so many shams and frauds as Catarrh has. Of all human ills this one seems to have been ordained specially to exercise the ingenuity of quacks in the production of nostrums as manifold as they are worthless. It is therefore actually refreshing to come across a remedy for this disease which affords positive assurance of relief if not actual cure to the sufferer. We refer to the treatment of A. H. Dixon & Son, Toronto, Canada. We have the name of a gentleman in our possession, which will be given to enquirers, who has been a sufferer from Catarrh for the past twenty years. He tried many doctors and innumerable so-called safe-cures, but all left him in a worse plight than before. One treatment of A. H. Dixon & Son's remedy made a new man of him and effected he believes a perfect cure. The Messrs. Dixon have a theory of their own about Catarrh, different from all others and upon this they work to eliminate the cause of the disease, with almost certain success. It is seldom that we are able to give so full and free an endorsement to anything as we are able to accord to this really wonderful remedy."

FOR HEADACHE.

USE HORSFORD'S ACID PHOSPHATE.

DR. I. R. SANFORD, Sheffield, Mass., says: "Most excellent in derangements of the nervous system, such as headache and sleeplessness."

HARTSHORN'S SELF-ACTING
SHADE ROLLERS

NOTICE
SCRIPT NAME
OF
THE GENUINE

ON
LABEL,
AND GET
THE GENUINE

Stewart Hartshorn

HARTSHORN

Fine Table
Wines

From our Celebra-
ted Orleans
Vineyard.

Charles H. Harwin & Co.

Producers of
the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.



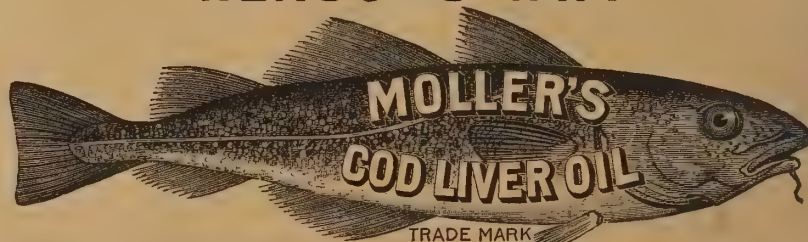
Will buy sufficient

Pearline to do a large wash—
Clean a house,

or enough of both to prove to any woman its wonderful dirt-removing and labor-saving qualities. Costs almost nothing, but makes the dirt jump. Does it hurt the hands or clothing?—NO, it is harmless. Many millions of packages used every year—no complaints, but many women write: cannot get along without PEARLINE.

Caution Peddlers and unscrupulous grocers are offering imitations which they claim to be Pearline, or "the same as Pearline." IT'S FALSE. PEARLINE is never peddled. 146 JAMES PYLE, New York,

REASONS WHY



Should be preferred to all others:

Because—It is genuine-pure, just as it existed in the hepatic cells of the living fish, not depleted of its natural virtues by any process of refining, nor weakened by being made into an emulsion with an equal quantity of water, glycerine, etc., which latter device makes water bring the price of Oil.

Because—In taste and smell it is not offensive, but instead, sweet and agreeable.

Because—Its administration is always followed by satisfactory results.

Because—It is more easily assimilated than other Oils.

Because—It is more nutritious than other Oils.

Because—Of its perfect digestibility, perfect limpidity.

Because—This perfect Oil costs consumers no more than the poorer qualities abounding in the stores.

Because—It is readily obtainable; all well-stocked Drug Stores have it.

Because—It is unquestionably the purest and best COD-LIVER OIL IN THE WORLD.

W. H. SCHIEFFELIN & CO.,
NEW YORK.

Sole Agents for U. S. and Canada.

A GOOD THING.—A self-counter sinking screw is a novelty. It is simply fitted with cutting teeth on the under side or bevel of the head, which cut into the wood as the screw is driven home, thus enabling the head to countersink itself. The channels and the teeth are both wider as they near the top of the head, thereby allowing the sawdust to escape.

ANTISEPTIC WHITING.—An antiseptic whiting has recently been introduced, and is recommended by the makers for hospitals, ships, stables, kennels, etc., in order to keep them free from insects. The compound, which appears to contain some camphor, is also useful for cleaning silver plate and articles of domestic use. The aroma is said to be not unpleasant, while the compound is non-poisonous and will not injure colors.

HYDRAULIC MOTOR.—There is now running at the Paris Exposition a hydraulic train that consists of four carriages and has room for about 100 passengers. The train runs as smoothly as a boat on water. There are no wheels, no steam, no electricity, apparently nothing to make it go. Yet it will go at the rate of 125 miles an hour, while as far as motion may be felt, there is none. The passenger cannot tell by any vibration of the car that he is moving at all.

HOSPITAL
REMEDIES

THE Favorite Prescriptions of
the Brightest Medical Minds
in the world, as used by them in
the Hospitals of London, Paris,
Berlin and Vienna.

ONE
MEDICINE
FOR ONE
DISEASE.

No. 1—Cures Catarrh, Hay Fever, Rose
Cold, Catarrhal Deafness.

No. 2—Coughs, Colds, Bronchitis, Asthma,
Consumption, A Peerless Remedy.

No. 3—Rheumatism, Gout.

No. 4—Liver & Kidneys, Dyspepsia, In-
digestion, Constipation, Brights Disease.

No. 5—Fever and Ague, Dumb Ague,
Malaria, Neuralgia.

No. 6—Female Weakness, Irregulari-
ties, Whites, A Golden Remedy.

No. 7—A Perfect Tonic, which gives
Health, Form and Fullness, Clear Com-
plexion, Good Blood and lots of it.

No. 8—Nervous Debility, Loss of Power
Impotence, an incomparable remedy.

Every bottle guaranteed to cure
its special disease IF CURABLE and
to give permanent relief ALWAYS.

Descriptive Circulars sent free on
application. HOSPITAL REMEDY
COMPANY, Toronto, Canada.

RELIABLE
AGENTS
WANTED.

TWELFTH SEASON.

MRS. McELRATH'S**Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams, Pickles and Mince Meat.**

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circulars, with references and prices, sent on application. Address,

Mrs. SARAH S. McELRATH,
393 Degraw Street, Brooklyn, N. Y.**THE AMERICAN ANALYST.**

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

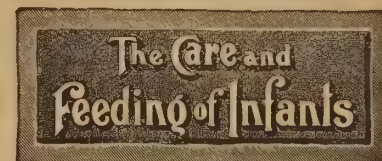
AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 25
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

**BLAIR'S PILLS**
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.Sure, Prompt and Effective. Oval
round box 14 pills.
At all druggists, and 224 William St.
New York.The Only Perfect Substitute for Mother's Milk.
A Copy of our Book,

will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,
40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT**ARDENTER MUSTARD.**

BEST IN THE WORLD.

**Ardenter Mustard Pellets**

— FOR —

Dyspepsia and Indigestion.**U**NIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.**W. G. DEAN & SON,**361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.Subscriptions \$1 per year. Now is the time to
subscribe.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the **AMERICAN ANALYST** has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

SUBSCRIPTIONS; - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

Nieder-Selters-Water.

**BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.**

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

❖ PICTURES. ❖

All kinds of small pictures enlarged to life-size.

**FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,**

at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE.

MRS. F. M. G. PENDER,

47 West Twenty-second Street.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be

particular and state if you want Formosa or Amoy Oolong; Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS**.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST**.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, **ONLY THREE** possessed the power of acting on starch. These brands were **MALTINE**, Corby's, Stacey & Co.'s Extract, and Keppeler's Malt Extract. **WILLIAM ROBERTS, M.D., F.R.S.**

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-VEBERIN.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,
34 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.

GOOD SOLICITORS

For Advertisements or Subscriptions can hear of something to their advantage by applying to this office.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pustules, Powder Marks, Bleaching, Facial Development, &c. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist,

125 West 42d Street, NEW YORK CITY, N.Y.

P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United

States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. CO., 52 and 54 Park Place, New York City.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the **AMERICAN ANALYST**. Apply 19 Park Place, N. Y.

A CHARMING BOOK, INVALUABLE TO EVERY LADY.

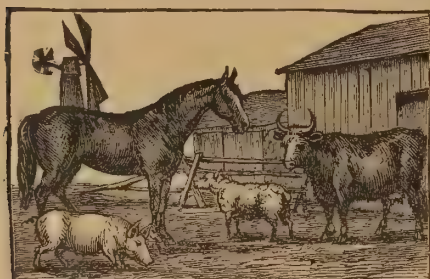
ARTISTIC EMBROIDERY.

By ELLA RODMAN CHURCH.



EMBROIDERY—the Stitch; Group of Flowers; French or Flat Embroidery; the French Knot; Stalk Stitch; Point Russe; Herring Bone or Feather Stitch; Chain Stitch; Ladder Stitch; Chinese Embroidery; DESIGNING AND TRANSFERRING DESIGNS; ARTICLES IN SILK EMBROIDERY—A Screen of Peacock Feathers; Banner Screen; Embroidered Table Top; Window-Curtain Border; Embroidered Dresses; Panels; Small Curtains or Hangings; an Embroidered Room; a Fan Table Cover; a Chair Cover; Fire Screen; a Child's Afghan; PRINT WORK; SILK EMBROIDERY WITH GOLD—Materials Used; Gold Cord; Gold Braid; Bullion; Spangles; Gold Thread; EMBROIDERED BOOKS AND OTHER ARTICLES; APPLIED WORK WITH EMBROIDERY—A Lambrequin in Applique; Silk Applique Work; Cretonne Work; Grape Pictures in Applique; Linen Applique; EMBROIDERY IN CHENILLE; SILK EMBROIDERY ON LINEN—Embroidered Fruit Doyleys; HOLBEIN WORK; CHURCH EMBROIDERY; LINEN LACE WORK—Point Conte; Rosettes, Insertions, etc.; Point Conte; Point Tire; Imitation of Antique Lace. ARTISTIC EMBROIDERY is a large 12mo. book of 128 pages, handsomely bound in paper covers, and profusely and elegantly illustrated. It will be sent by mail post-paid upon receipt of only **Twenty-Five Cents**, and is guaranteed to be the best book of the kind ever offered at this low price.

ALL ABOUT HORSES, CATTLE, SHEEP AND HOGS.

The American Live Stock Manual.

No subject is of greater importance to the farmer than that of Live Stock, and few there are who have not much to learn regarding it. Many a man has lost a valuable animal for no other reason than that he did not know how to take care of it when well or to treat it when sick. **THE AMERICAN LIVE STOCK MANUAL** is a book the cost of which is but trifling, but it is simply worth its weight in gold to every man in America who owns a horse, a cow, a sheep or a hog, for it is a complete text-book, containing the fullest information regarding the care and management, feeding and rearing, of live stock, likewise directions for the cure of all diseases peculiar to these animals and of all unruly and vicious habits, for the construction of necessary buildings and conveniences, etc., etc. The following are only a small portion of the topics treated in this book: How to Judge a Horse; Feeding Horses; Raising a Colt; To Bit a Colt; To Break Horses from Pulling at the Halter; Warts on Horses; Stumbling Horses; Care for Foalry Horses; Kicking Horses; Training Vicious Horses; Galls and Sores on Horses; Reining Horses; Colic; Bots; Founder; Heaves; Epizootic; Shying; Scratches; Ringbone; Spavin; Cribbing; Windgalls; Brittle Feet; Worms; Over-Reaching; Sprains and Bruises; Hide-Bound Horses; Avoiding Indigestion; How to Save Oats in Feeding; Watering Horses; Care of Horse's Legs; How to Tell a Horse's Age; Neck Yokes; Good Grooming; Shoeing; To Make the Mane and Tail Grow; Box Stalls; Stables and Stabling; Breeding Horses upon Farms; Horse Education; Ringing a Bull; Relieving Choked Cattle; Bone Disease in Milch Cows; Marks of a Good Cow; Cattle Racks and Feed Boxes; Feeding Cattle; How Good Cows are Ruined; To Prevent Hooking Fences; Black Tongue; Lice; To Prevent Kicking; Contagious Cattle Diseases; Fattening Stock; Milking; Cooking Feed for Live Stock; The Solling System; Raising Calves; To Break a Heifer or Vicious Cow to Milk; Wintering Live Stock; How to Take Off a Hide; Assistance at Birth; Hollow Horn; Obstructed Teats; Black Leg; Oaked Udder; Jumping Cattle; Garget; Care and Management of Hogs; Piggeries; Troughs; Pig Sties; Over-Feeding; To Cure the Mement of Swine; Hog Cholera; Paralysis; Soury Pigs; Preparing Food for Swine; Butcherings; Fattening Hogs; Driving Hogs; To Prevent Hogs Becoming Diseased; Raising Sheep; Washing Sheep; Sheep Rot; Hurdling Sheep; To Tell the Age of Sheep; Sheep Ticks; Early Lambs; How to Make Sheep Pay; Spring Feeding of Ewes; Treatment of Lambs; Increasing the Growth of Wool. **THE AMERICAN LIVE STOCK MANUAL** is a large book of 128 pages, 12mo., with handsome cover, and is profusely illustrated. It will be sent to any address by mail post-paid upon receipt of only **Twenty-Five Cents**. Send for it! The price is but a trifle compared to its real value to every farmer.

Four Books in One! No Household is Complete Without It!

THE COMPLETE BOOK OF HOME AMUSEMENTS.

What most lives need is *more sunshine*. Let us banish care, have a good time, enjoy ourselves, while we may. How many of us have much better off—are those homes wherein the father and mother, and even the gray-haired grandparents, join with the children after tea in a merry game or other amusement, than those wherein reticence and reserve and chilly demeanor prevail. "But," you say, "what shall we do? We read until we are tired; and we know of no amusement that we care for. How shall we employ the long winter evenings?" We have published a book to answer this question, and a wonderful book it is. It contains 64 large 3-column quarto pages, neatly bound in handsome covers, and is filled to the brim with every conceivable thing for the enlivenment of home. It is in reality *four books in one*, for it covers the ground usually occupied by four distinct volumes, and contains four times as much matter as any book published at the same price. It is a complete text-book for Public and Private Entertainments, Private Theatricals, Parlor Exhibitions, Social Gatherings, School Exhibitions and Evenings at Home. It is a book for old and young, grave and gay—a veritable storehouse of good things for all. It contains a number of **ACTING CHARACTERS**, with full directions how to perform them. It gives some very excellent **PARLOR DRAMAS**, easily acted yet very amusing. It tells all about **SHADOW PANTOMIMES**, and this alone we think you will say is worth the price of the book. It contains nearly fifty beautiful **TABLEAUX VIVANTS**, and gives full and explicit directions for performing them. In it are so many amusing **PARLOR GAMES** that we have not attempted to count them, but we think we have almost everything, new and old, that was ever thought of in the game line. Then we come to a lot of wonderful **ILLUSTRATED PUZZLES**—tantalizing, perplexing, apparently intricate, but so easy when you turn to the proper place and learn the answers. Here also is a savory dish of **RIDDLES, ENIGMAS, CHARADES, ETC.**—a nice large lot of them. How young and old heads will puzzle and study over them, and how proud you will feel when you have solved one correctly. As to **CONUNDRUMS**, there are nearly a bushel of them, some so funny you will want to hold your sides with laughter, and what fun it will be for one of the company to read the questions and see who can guess the answers! A considerable portion of the book is allotted to **PARLOR MAGIC**, and here you will find hundreds of wonderful and amusing tricks, easily performed, yet exceedingly mystifying to your audience. Then there are a lot of amusing and instructive **CHEMICAL EXPERIMENTS**, showing how the combination and manipulation of the simplest agents will produce the most surprising results. Following these are a number of excellent **DIALOGUES**, comic and serious, suitable either for school exhibitions or parlor entertainments. Last, but not least, the book contains nearly fifty of the finest **RECITATIONS**, dramatic, pathetic, sentimental, and comic, ever written. It is handsomely illustrated, and is indeed a splendid book. **THE COMPLETE BOOK OF HOME AMUSEMENTS** will be sent by mail, post paid, to any address, upon receipt of only **Twenty-five Cents**.

HOW THE READERS

OF THE

AMERICAN ANALYST

MAY OBTAIN ANY ONE OR MORE OF

THE ABOVE BOOKS

FREE.

To any one who will send us **One New Subscriber** to the **AMERICAN ANALYST** for one year, at \$1.00, we will send, **Free**, any one of the above books to compensate him for his trouble; to any one who will send us two new subscribers, we will send any two of the books; and for three new subscribers, we will send the three books. This will be good pay for little work for it is a simple and easy matter to get one or more new subscribers to the **AMERICAN ANALYST**. Show the paper to your friends and neighbors, and you will have little difficulty in inducing one or more of them to subscribe for one year. And when you have received your book or books you will feel doubly repaid for what trouble you have taken. If the parents do not wish to try it, let the little boys and girls do so after school hours. You feel sure that every one of our present subscribers and readers can readily secure for us one or more new subscribers, and we offer this special inducement in order to stimulate effort in this direction. The books will be found well worth the slight effort that will be required to secure them. Try it, and see how easy it will be.

ADDRESS,

The Analyst Publishing Co.

19 PARK PLACE,

NEW YORK.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

Pure  **LAGER BEER,**

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALY FOR
HOTELS, CLUBS

AND
PRIVATE FAMILIES

BY

Beadleston & Woerz
291 W. 10th St New York.

Orders by Postal Card
promptly attended to.

LEA & PERRINS' SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

A CURE

FOR

Sick and Nervous

HEADACHES.



ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

UNITED STATES DEPARTMENT OF AGRICULTURE.
Washington, D. C.

By an analysis of Dr. Price's Cream Baking Powder I find it carefully compounded, and I regard it as the best baking powder in the market in every respect.

PETER COLLIER,

Late Chemist of the United States Department of Agriculture.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

ORIGINAL LABEL:

"Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator."

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 42.

NEW YORK, THURSDAY, OCTOBER 17, 1889.

WHOLE No. 138

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Chartreuse	495
City Hygiene	494
Domestic Dietetics	496
Editorials	493
What will the Harvest be ? ; Our South American Relations ; Faith and Suicide ; Adulterations in Minnesota.	
Faith Follies	495
Local Inspection Fizzle	495
Salt	494
Spectacle Lenses	497
Terpsichore Fettered	496
Wasted Study	497
Wonderful Watches	496

WHAT WILL THE HARVEST BE ?

In view of the astonishing achievements of this generation's inventive talent the imagination is utterly at a loss in attempting to conjecture the progress likely to be made by humanity within the next fifty years. Recalling the familiar instances of the extraction of pigments, perfumes and saccharine out of coal tar, the magical utilization of electricity, and the wonderful advancement in a thousand directions of constructive as well as speculative science, there seems literally to be no limit to man's capabilities in bending the forces of nature to his control. Nature itself appears to be subverted through its own instrumentality. The manufacture of silk out of cellulose, without the intervention of the silkworm, mentioned in this column last week, is a striking but by no means an exceptionally remarkable illustration of this fact. We see and hear of such things every day, and they scarcely elicit more than a passing comment, while the mere suggestion of any one of them half a century ago would have provoked universal ridicule. There is another textile material called vegetable flannel which is being

manufactured in considerable quantities in Germany out of the leaves or needles of the pine tree. The fibre is spun, knitted and woven into undergarments and clothing of various kinds. The foreign delegates now visiting this country in attendance upon the Pan-American Congress are reported to have been especially interested a few days ago in witnessing in an eastern factory the spectacle of the sawing, splitting, chopping, crushing, and grinding into pulp of whole trees and the transmutation of the product into the finest and whitest quality of paper. How completely the old fable of an antecedent golden age has been shattered by the wondrous strides that have marked the progress of man during the present century. There never before was such an age as the one we live in, and yet the race is only on the threshold of its development. What ultimate destiny man is to achieve for himself lies beyond the grasp of the most venturesome speculation.

OUR SOUTH AMERICAN RELATIONS.

The "Congress of the three Americas" which met recently in Washington to organize and then dispersed temporarily in order to allow the delegates from Central and South America to visit and investigate our great industrial centres is likely to prove of great and lasting importance to our commercial interests. One point that it will probably settle is the question of reciprocity between the United States and the countries of South America, whose products are now shipped almost exclusively to Germany and England. Senator Morgan, of Alabama, in a recent interview on the subject of the congress, expressed the liveliest satisfaction with its probable outcome. "There is" he said "the question of direct railroad communication between North and South America. It would not be so difficult to construct such a road along the base of the Andes as it was to construct any of the Pacific railroads, and I predict that within a few years we shall see such a road built, connecting the countries in a way that will not only be of almost incalculable benefit commercially, but will also join these countries in an offensive and defensive alliance against the world and enable them to defy it. Then there is the establishment of a court of claims to clear up the thousand and one claims of all sorts for damages that are pending, brought by the citizens of this government against the various South American States, and by citizens of those States against our Government. What we now want is perfect amity. I think the probable result of the congress will be the appointment of a claims commission having, say, one member from each of the nineteen States, and that claims should first be brought before the government of any State, and then, if thought worthy, be presented to the commission, the decision of such a tribunal to be final. That would effectually dispose of the many claims which have done more than anything else to breed ill-feeling between these countries and our own." "Then" he continued "the Nicaragua Canal will be com-

pleted in five years. The work that is being done is astonishing, but it is being accomplished so quietly that nobody knows about it. When this great work is completed it will be another tie to bind us to South America, and will revolutionize trade and commerce with those countries as well as abroad. The clearing house of the world will then be removed from London to New York. Our country, controlling that canal, one war ship will then be able to do the work of ten under the present system. With the vast natural fresh water harbor and provision stations there, our ships could reach almost any point in six or eight days that those of other countries that would have to go around would take fifty days to reach."

FAITH AND SUICIDE.

We continue in this issue, and propose to go on doing so as the facts reach us, the record of men and women barbarously done to death by the malpractice, or the no-practice, rather, of the so-called Christian scientists. It is difficult to account for the existence, to say nothing of the prevalence in this generally enlightened age, of such besotted and suicidal folly, antagonizing as it does all the impulses of reason, the teachings of science and the plainest dictates of revealed religion. The following absurd, though tragical, case of blind devotion to the supposed efficacy of unassisted faith is reported by the Chicago Herald :

"An old German and his wife had been influenced to believe in the unreasonable teachings of some crank, who had method enough in his madness to make money out of the credulous. This old German had retired from business with a moderate competency and lived alone with his wife on Market Street. For more than two years he suffered from consumption and paid half his fortune to faith cure people, who seemed to hold him in complete control. One of his neighbors, who had known him for years, sent a physician to his bedside. The doctor was an unwelcome visitor, but he told the old man that he could live but a few days longer, and advised him to make such disposition of his property as he thought best. The faith cure imposters were early on hand to dispute the physician's judgment. They held a kind of pow-wow and consulted the oracle. The next day the old man sent for his son, who is a young business man in the city. He asked the boy to help him into a carriage. He was so weak as to be almost helpless. He confided in his son to a limited extent, and told him that he was going to renew his life. Away up the river he remembered that the current flowed swiftly against one of the banks. If he could reach that point and drop a handful of pebbles into the stream he would be made whole again by faith. The son knew that his father could live but a short time and humored his desire. The carriage was driven to the river bank above the city and the old man was carried to the edge of the water. He must make the test alone or the charm would fail. The son laid his father's prostrate form on the bank, and gathering a lot of pebbles placed them in the bony hand. Then he left him alone and hid himself in some thick underbrush that grew a short distance away. In a few minutes he stepped out of his hiding place and was horrified to find his father gone. He ran to the river bank, and there below him in the water was the dead body of the old



man. While dropping the pebbles into the stream and muttering the incantation, he had rolled from the bank and was drowned. The boy drew his father's dead body from the stream and placed it in the carriage. The test had failed.

ADULTERATIONS IN MINNESOTA.

The Minnesota State Board of Health has published a report of the State chemists, Drs. Drew and Eberman, relative to the prevalence of adulterations of food materials in that commonwealth. The legislature last winter passed a law directing an investigation of lard, cheese, milk, cream, butter, vinegar, wines and liquors, baking powders, cream tartar and food products that might contain cotton seed oil or terra alba. Dr. Drew reports that he has examined and analyzed 249 articles. Out of eleven samples of milk, ten were found deficient in fat, and one was of legal character. Of fifteen samples of cheese, fourteen were full cream, and one adulterated with 80 per cent. of foreign fats in shape of lard. Twenty-five samples of baking powder were analyzed. Two were found to be phosphate baking powders, four cream tartar baking powders, and nineteen alum powders. Of twenty-three samples of cream tartar purchased from retail grocers, two were of satisfactory purity, while the remainder did not contain cream of tartar at all, being made up of mixtures of tartaric acid, acid calcium phosphate, and in some instances alum. Of fifty-five samples sold as cider vinegar, eleven were pure, thirteen were spurious cider vinegars made from the exhausted pomace from which the cider had been pressed, and thirty-one were colored low wine vinegars, containing in some instances a small proportion of apple solids or cider vinegar. Three samples sold as malt vinegar were colored low wine vinegars. Nineteen samples were below the legal limit of acidity. Sixty-eight samples of lard were examined, and thirty-seven proved to be adulterated with cotton seed oil. Ten samples of olive oil were examined, and six found to consist largely or entirely of cotton seed oil, the other four being pure. The report of Chemist Eberman shows similar results. It indicates that impure goods have everywhere been put upon the market as pure unadulterated goods.

WARM BATHS.—Sir Edin Chadwick, at the recent Health Congress and Exhibit at Hastings, England, expressed the opinion of the wonderful sanitary effect of bathing in tepid water. The German army, he said, had the lowest death rate of any in Europe, which he attributes to the fact that frequent bathing in warm water is compulsory.

SALT.

ITS NUMEROUS QUALITIES PRACTICALLY APPLIED.

Salt is a natural digestive when taken in conjunction with many articles of food, as for example with nuts. Upon the latter, salt almost acts as a natural solvent, when once they have been taken into the inner system. Salt is in a sense, nature's own blood purifier; those who talk about scurvy may hold contrary opinions, but then I am not speaking of the abuse of the mineral in question; I am dealing with its use in a moderate and consistent manner. Heartburn may be relieved almost instantly, if half a teaspoonful of table salt be dissolved in a wine glass full of cold water, and then drunk. When the eyes are tired or weak, if they are bathed in slightly saline water, they will soon become soothed. A gargle of salt and water, used before retiring at night will strengthen the throat and keep off bronchial attacks. If the flesh is stung by an insect, salt is useful again. It should be slightly wetted and applied somewhat like a thick plaster would be, by being tightly bound over the spot which is troublesome, and the insect's venom will vanish as if by magic. Those who suffer from that which is a very troublesome complaint and for which there is very little sympathy—I allude to eructations and flatulency, should try what hot salt will do for them, and for the former complaint fill a conveniently sized linen bag with salt, then make this almost red hot in the oven, and immediately clap it upon the chest. The relief will be instantaneous, and almost wonderful in its effects. For the latter complaint, a somewhat similar tactic should be adopted, but the hot salt should be laid inside a very long linen swathe, and then bound tightly round the body so as to cover the pit of the stomach and the kidneys at the same time. The effect of this will be almost as marvellous as in the previously mentioned instance. Try a bandage of hot salt outside the face, for neuralgia; fill the mouth with hot salt in cases of toothache; put a little hot salt in a piece of muslin, and then put it in the ear for a second or two when earache is troublesome. When a person is upset or has taken something which disagrees with the system, and a harmless emetic is desired, some salt dissolved in warm water will be found an excellent thing for the purpose. In any such cases relief will be experienced very quickly. When the feet are tired and the system consequently feels jaded, try a foot-bath of warm salt-water before retiring at night; the sleep will be a refreshing one, and the next morning the tiredness will have vanished. Of course the slumber will help this considerably, but then the warm salt water bath will assist the sleep to do its work. Coming now to domestic uses of salt (apart altogether from culinary demands), full notice should be taken of the following hints which I give. Straw hats, straw mats, willow furniture, etc., etc., may be cleaned almost like new if salt and water be used for washing them. To clean a carpet thoroughly throw damp salt upon it and then sweep it briskly, and it will be found that all the coloring will have been vastly brightened; or if the carpet has been well swept, go over it afterwards with a clean cloth and clear salt water, and the result will be almost as good. It will certainly make the water harder than if no salt had been added, but then when washing light cambrics, linens, or other gauzy material of ladies' attire a handful of salt, dissolved in the washing water will set the color wonderfully. This practice should be pursued before washing the goods with soap, and by that means the colors will not be so prone "to run." Delicately colored goods of any kind should never be washed without a salt water bath first, but care should be exercised in reference to materials which are likely to shrink when immersed in water. There is a general impression abroad that articles which are dyed black cannot be washed without ruining the color. This is a mistake because so long as the material is washable at all, black dye can practically be rendered a fast color by the help of the salt water bath before the general washing is

commenced upon. After such a treatment faded black caused by washing will never occur. To remove grease from any material, take some spirits of wine, liberally dissolve salts with it, rub the greasy spot, and it will then require a good deal of examination to find where the grease was previously present. People with thin hair should wash their heads in salty water before retiring to rest, and the next morning wash the head again in clear water without soap. I know a case in which excellent results ensued from this treatment. By the use of dry salt any stain may be removed from white table linen, etc., and similarly slight fruit stains may be eliminated, if the dry salt be applied promptly. If the chimney catches fire run to the salt box, and empty it out upon the flames; they will be reduced as if by magic and further steps can be taken to subdue the outbreak. If soot falls upon the carpet or rug, do not attempt to sweep it until it has been covered thickly with dry salt; it can then be swept up properly, and not a stain or smear will be left. If anything happens to catch fire either whilst cooking, or otherwise, throw salt upon it at once to prevent any disagreeable smell. If it is desired to have a bright, clear fire instead of a smoky one, sprinkle some salt over the coals and in a few minutes the desired object will be attained. In summer salt is very useful to the gardener, because a strong solution of it will kill insects or worms on plants, provided that it be poured over the earth in such a way as not to touch the leaves of the plant itself, otherwise the plant will be killed as well as the insects. On account of the last mentioned reason, it will be seen, that salt is very useful to kill weeds, but great care must be taken to see that it does not become scattered more widely than for its immediate purpose. Now a couple of culinary wrinkles to finish with. When beating up the whites of eggs, add a tiny pinch of salt because this will "cut them up," and make them frothy much quicker, as well as make the froth more "heady," than it otherwise would be. Presuming that one wishes to cool a hot dish in a hurry, it will be found that if the dish be placed in a vessel full of cold salty water it will cool far more rapidly than if it stood in water free from salt. I think these hints of mine are almost sufficient for the present occasion, for if I give more of them just now I am afraid I shall bore my patient readers.—P. H. DAVIS in *London Housekeeper*.

CITY HYGIENE.

ADVANTAGES OF THE ELECTRIC LIGHT, ASPHALT PAVEMENT AND CABLE CAR.

In enumerating "some of the hygienic advantages of modern city buildings, with special reference to the respiratory organs," in a paper read before the State Sanitary Convention, Dr. W. T. English says among other things that a casual view of our streets, alleys and courts reveals an advance in street paving—Belgian block substituted for cobble stones on the streets and concrete or asphalt on alleys and courts. He quotes Rudolph Hering, who says that one horse can draw as much weight on an asphalt pavement as would require two horses on Belgian block and seven and four-fifths horses on cobble stone. Dr. English, says the *Pittsburg Dispatch*, urges the Belgian block and asphalt on account of hygienic considerations. Streets so paved are more easily cleansed. The air contamination is reduced, dust decreased, and the streets are largely cleansed by rainfall. Dr. English also finds that cable and electric railways in Pittsburg and Allegheny, when completed, will remove 4,000 horses from the streets, and the absence of offal incident to such a herd of animals, exhalations of effluvia, dust, gas, and odors innumerable constitute only a small portion of the benefits. On the reduction of oxygen waste by the use of electric lights instead of gas, the doctor finds that the 10,000 street lamps of Pittsburg and Allegheny represent an oxygen waste that would supply a city of 35,000

or 40,000 inhabitants, and the grand total of oxygen waste saved indoors and outdoors, on streets, in business houses and printing offices, factories, etc., by electric lighting in these two cities, he finds enough to supply a city of 115,000 inhabitants. He quotes from Dr. Haller and Kried, of Germany, to prove that inhalation of superheated air is destructive of bacilli, and finds that the use of natural gas in baking the air of public assembly rooms, after the departure of the audience, is valuable for the destruction of micro-organisms and rendering of the air aseptic, after which the temperature may be permitted to decline to its wonted place. He indorses the proposition that in all cities there should be provided homes, or hospitals, for consumptives. When deemed advisable the rooms could be heated beyond the temperature of 105 deg. Fahr., at which bacilli perish, and when thought necessary, the patient could be advised to inhale for some time the air at the same altitude which would render the lungs aseptic. In 1883 the relative death rate in Pittsburg from consumption was nearly 12 per cent. In five years preceding 1889 it never reached more than the average of 9.96 per cent. On the whole Dr. English believes that with cleanliness, electric lighting, etc., the cities are improving in both physical and mental health, and that Farr's law of density, which assumes that "the nearer men live to each other the shorter their lives may be reversed by statistics of future cities. It is in large cities that the greatest progress has been made in hygienic requirements and in small cities the proportionate death rate is the largest.

CHARTREUSE.

A SINGULAR INDUSTRY MAINTAINED BY CARTHUSIAN MONKS IN FRANCE.

When the republican government in France suppressed many of the religious orders, an exception was made in favor of the Carthusians of the Grand Chartreuse; and much occasion for satirical remark did this exception provoke, because the reason for the exception was so manifest—that the French were unwilling to drive a flourishing manufacture out of France into Switzerland, whither, or to Tyrol, the Carthusians would have migrated at once, carrying with them their secret, had the republican government resolved to extinguish them. But this was not the sole reason of the exception made in their favor. The Carthusians of the Grande Chartreuse pay to the State annually a duty of 600,000 francs for alcohol, and if the Carthusians were abolished, the State would accordingly be 600,000 francs poorer annually, and Austria and Switzerland so much the richer. But that was not all. Another consideration was that the expulsion of the Carthusians and the transference of their business elsewhere would most assuredly have aroused disturbances in the department of Isere. The manufacture of the famous liqueur Chartreuse is a benefit to the entire department, as the inhabitants are well aware and relieves them from onerous rates. For the Carthusians who manufacture it are the members of a strict order, one of the very strictest, and they do not want money for themselves; they live the most solitary and abstemious of lives, indulge in no splendor, not even of ecclesiastical building; and all the profits made by the sale of the liqueur, the secret of whose manufacture they alone possess, goes for the general good. It is said that the profits obtained from the sale of the liqueur amount to the annual sum of £100,000—a princely income; but the Carthusians make a princely use of it. Almost all of the income is spent in the relief of the poor and in works of general utility. Recently not a little uneasiness reigned in the department, for it was rumored that the house of Rothschild had offered to buy the manufacture, and the recipe of the general of the order for the sum of 80,000,000 francs. We can understand that this offer was a tempting one, if it had been made; for the manufacture of the liqueur had

greatly extended, and was extending annually to the disturbance of the object for which the order was constituted, the order being nothing other than a collection of Hermits. The proposition, however, was refused. The monks met with some opposition from the Vatican some years ago, in consequence of a refusal to pay a million francs a year into the Papal Treasury. The Vatican encouraged the Benedictines to rival the Carthusians with a liqueur of their own composition; so also have the monks of The Fontana, with the "Eucalyptica," derived from the Eucalyptus plantations in the Campagna, near Rome, but none of these can, in the estimation of connoisseurs, equal the delicate flavor of the Chartreuse. This liqueur leaves the monastery of the Grande Chartreuse, in Dauphine, in peculiarly formed, low, broad bottles, with the label and seal bearing the arms of the convent and the letters "D. O. M." (Deo Optime Maximo), as the pledges of genuineness. It must not be supposed that the monks are engaged in distillation of spirits and the mixing of herbs and bottling of liqueur. They live apart from the manufacture in their abbey in the High Alps of Dauphine, and the manufacture takes place in extensive factories in the same mountain basin, but disconnected with the abbey. This abbey of the Grande Chartreuse is the headquarters of the order, which has other houses in France, Italy Switzerland and Austria—in all fifteen. The manufacture is carried on by paid operatives, and the village population is employed in the collection of the requisite herbs. Some of these are becoming scarce, owing to the extent to which they have been gathered. The herbs are mixed with eau-de-vie, which is purchased by the abbey, not manufactured by it, and they are then distilled along with the spirit. Only one of the monks, the steward, supervises the operations, and only one of these operations is conducted in secret, and that is the mixture of the herbs; in which consists the secret. The rest of the brothers of the order have nothing whatever to do with the manufacture, they follow their silent, quiet life independent of it. The manufacture of Chartreuse is of comparatively modern origin. Till 1835, in the Grande Chartreuse alone, an elixir was made of certain herbs steeped and distilled in brandy for medicinal purposes; and it was solely as a remedy that the original Chartreuse was employed and distributed by the brothers. That their decoction would become a liqueur for the palate of luxury never occurred to them. In time, however, both the manufacture was improved and the fame of its excellence extended, so that the rude old workshops in which the brothers distilled the herbs no longer sufficed, and new buildings were erected, and operatives came into that Alpine basin to lend their aid to the perplexed and overworked brothers. Now, the manufacture has called into existence quite a small town. Formerly three kinds of Chartreuse were made—the white, the yellow, and the green—but the white has been abandoned of late years. The green is both the strongest and the most expensive. There is more alcohol in the green than in the yellow. It is hinted that the reverend fathers themselves regard a blend of the two as the perfection of the liqueur, in the proportion of one-third green to two-thirds yellow. Near Florence in the Cartosa, is the Val d'Emmo, where the Carthusians also manufacture a Chartreuse liqueur, green, deliciously flavored with angelica. The monks are suppressed, and only a few old ones linger on, and are not permitted to take novices. Hence their Chartreuse will probably perish with them. In Florence itself the Dominicans of Sta Maria Novella had also their manufactory of elixirs and scents. They have been dispersed, and the government has sold their manufactory, their very pots—and portraits of the inventors of the several elixirs—to speculators, who are installed in their rooms, and who trade on the old credit of the manufactures of the banished friars. Will the Chartreuse of the future have the qualities in such perfection as that of the present? Will the guarantee of a joint stock company be as reliable as that of the order of St. Bruno? The amount of the Alpine plants

is limited. More than a certain quantity of the liqueur cannot be sent forth in the year, and this is what gives to the Chartreuse its high cost. We can hardly expect that a company will be as scrupulous in adhering to the recipe. Let us hope that the good brothers will not sell their secret and their factory, but still send forth the bottles labeled D. O. M.

FAITH FOLLIES.

CURRENT EXPOSURES OF CRIMINAL CHRISTIAN SCIENCE.

A Broken Leg and Lifelong Lameness.

A correspondent, writing from Milwaukee, says: The Wisconsin legislature at its last session struggled with a law that should govern the practice of medicine in the State. There is probably no State in the Union where the laws relating to the practice of medicine are so loose and disjointed as in Wisconsin, and for this reason the itinerant healers from every country of the world flock to the main centres of population within the State. Through the efforts of Dr. Rauch the State of Illinois was made a dangerous place for quacks, and with stringent laws in other surrounding States, Wisconsin receives the exodus of unprofessional practitioners. As the metropolis of Wisconsin, Milwaukee, is overrun with men and women who claim to heal the sick by means unknown to regular physicians. Here the Christian scientists and faith healers flourish. The herb doctor, with a decoction of something harmless in itself, can impose on the helpless invalid with impunity. The great injustice of it all seems to be that only the poorer classes are victimized. With the Christian scientists but very few of their blunders are ever known. Two weeks ago a middle-aged woman broke her leg. It happened that her neighbor was a Christian scientist, and a few prayers and incantations were said while the poor woman suffered for days with a broken limb. A surgeon was at last summoned, who saved the woman's life with difficulty, but she will be a cripple for the rest of her life.

THE LOCAL INSPECTION FIZZLE.

THE COURTS STAMPING OUT LEGISLATION SECURED FOR SELFISH ENDS.

The meat inspection law has again been declared unconstitutional, this time by Judge Nelson, of the United States Circuit Court. The opinion by Judge Nelson is able and exhaustive, and holds it to be a plain violation of the commercial clause of the constitution which provides that Congress shall have control of commerce between the States and with the Indian tribes. He also held that it was in violation of the clause of the constitution which provides that the citizens of each State should be entitled to all the privileges and immunities of the several States. This decision opens the State of Minnesota throughout to the sale of dressed beef from Chicago and Kansas City, and practically settles the invalidity of the law compelling inspection on the hoof. An appeal has been taken to the Supreme Court, and the decision of that body will be looked for with interest, but with little doubt that Judge Nelson and the other judges of the State who have declared the law unconstitutional will be sustained. The failure of the law is what the *Bulletin* prophesied immediately after it was signed by the Governor. Its object was too apparent to receive honest support, and indeed it seems unnecessary that the Minnesota packing interests should require the enactment of such a statute in order to compete with the established packers. There is a good deal of inconsistency about the health cry the country over. It is founded on selfish motives in very many instances. The whiskey sold in a State in one day will do more to injure health than all the diseased meat that

is sold in the entire West in a month. Then away with this health bugaboo. But somebody says look at that death that occurs from eating poisoned meat. But does anybody say look at that drunken engineer in Chicago who ran blindly into a train, causing the death of five innocent passengers? Away with the health bugaboo on meat until the health cry takes more substantial form. The packing interests of Minneapolis and the northwest will soon prove strong enough to exist without blind legislation of this sort. The country westward is an empire of ranges, and from them will be drawn a supply that will build up here an enormous business interest that is now in its merest infancy. What is needed is more freedom in trade and less restriction. If a man cannot buy or sell over a certain line, business is bound to be affected, for it will be crippled. If there were real necessity for the inspection law on the ground of health, that would be another matter; but a law made ostensibly for health, but really for a selfish end, will not find support even among them whom it was intended to benefit—*Chicago Com. Bulletin, Sept. 28.*

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

October.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

OKRA SOUP.—Cut a pound of round steak into bits and put with a sliced onion into a hot frying-pan in which some butter has been melted, and fry until very brown; put the meat into the soup kettle, with three or four quarts of cold water, and boil slowly for an hour; add one pint of sliced okra, and simmer for three hours or longer; season with salt and pepper; strain and serve.

PANNED OYSTERS.—Wash and wipe the oyster shells, without opening them; place them in a pan, the round side down; set the pan in a very hot oven for three minutes. Take from the oven and remove the top shell with a sharp knife; take out some of the oysters and put three in each deep shell that is to go to the table; sprinkle with salt, pepper, bits of butter and cracker crumbs, and bake for a minute or two until they are brown.

COMBINATION BREAD.—One pint each of sifted yellow meal and rye flour; pour in a pint of boiling milk and let it stand until cold. Sift together a pint of wheat flour, a tablespoonful of Horsford's baking powder, a full teaspoonful of salt, a teaspoonful of sugar. Mix these with the meal mixture; add an ounce of creamed butter, and cold water or milk enough to make a stiff batter or dough; shape quickly into loaves; put these in hot, buttered tins and bake an hour; the first half hour, keep the loaves covered.

CHEESE CAKES.—Press a pint of perfectly dry curds through a colander; beat six eggs well, and to them add a cupful of powdered sugar; beat well, and add to

the curds a little salt and a cupful of milk; flavor with vanilla or lemon, and bake in tart shells. When done, spread over them an icing.

OYSTER SALAD.—Use equal portions of small oysters and finely cut celery, and serve with French or Mayonnaise dressing.

PUMPKIN PIE.—To make four ordinary sized pies, take two teacupfuls of cold cooked pumpkin, two eggs, one and a half cupfuls of sugar, nearly two cupfuls of milk; salt, nutmeg, ginger and cinnamon to taste. Bake with under crust only.

BREAKFAST CAKES.—Set at night a batter made of one cupful of milk, one cupful of warm water, three eggs, one teaspoonful of sugar, four tablespoonfuls of yeast; flour enough to make it stiff. The egg yolks and sugar must be beaten well together; then stir in the water, milk and yeast; lastly the flour. Stir together thoroughly and set in a warm place to rise. In the morning stir in the whites of the eggs, beaten to a froth, and a pinch of salt. Bake on a hot griddle.

TERPSICHOE FETTERED.

DANCING ARBITRARILY RESTRICTED IN GERMANY.

Wonders will never cease. Of all European realms, Germany, says a dispatch in the London *Telegraph*, is the one in which the recreative exercise of dancing is most generally and assiduously practised throughout every class of society. Well nigh every Teuton son and daughter, from prince to plumber, from duchess to dairy-maid, knows how to dance, and delights in displaying that accomplishment at every convenient opportunity, not with the perfunctory carelessness and languor that characterizes ball-room performances in this country, but in a highly spirited, correct and painstaking manner. Germans not only like dancing, but dance as if they liked it. With the majority of Kaiser Wilhelm's subjects dancing is a passion, rather than a pastime. As such, it would appear, and for reasons which have not yet been authoritatively set forth, the German Government has resolved to curb it in the young. Henceforth the following regulations are to be strictly observed by those communes in which, during Whitsuntide, on the Emperor's birthday and on other national holidays, public dances are organized for the special diversion of children. Dancing is not to begin until after noon, and is in no case to be continued after eight o'clock P. M. No one but school children is to be allowed to join in, the "mazy." Boys and girls who happen to be undergoing preparation for the ceremony of confirmation are absolutely forbidden to take part in terpsichorean joys. Those to whom the moral and religious training of persons of tender years is entrusted are strenuously enjoined to use every means in their power for the total prevention of dancing among their pupils, and to substitute children's games for that pernicious recreation, such "jeux innocents," moreover, to be played only under the personal superintendence of the teachers. For the future waltzes and polkas, quadrilles and cotillions are to be tabooed to the youngsters of the fatherland. This announcement has all but drained the resources of our capacity for amazement. It will take a good deal to astonish us for some time to come.

WONDERFUL WATCHES.

SOME CURIOUS TIMEPIECES OF OLD AND MODERN TIMES.

For years Dr. Allan, the Scottish physician, was suspected of being a wizard, an opinion which was considered all but confirmed when in 1630, he provided himself with a silver watch of the regulation size and style. Chancing to stop with a neighbor over night, and it being somewhat cold he laid the watch near his body and covered it with the bed-quilts, so that the chilly weather would not effect the works. Next morning he

arose rather abruptly and left the house without removing his treasure from its cosy nest in the bed. In fixing up the room the servant discovered "the infernal chattering thing," and immediately concluded it must be the old doctor's "familiar spirit," conclusions which she hardly arrived at before she had fled wildly from the room. Other servants were called and the whole array charged the "chattering thing" in the bed. Clubs and tongs were freely used but the case was strong and the thing still chattered defiantly. One of the girls, more courageous than the others, finally agreed that she would take the tongs and carry the thing to the moat and drown it, a proceeding fraught with danger, but at last decided upon. The others followed at a respectable distance with hoes, clubs, and shovels, with which they proposed to pounce on the thing should it attempt to attack the heroic girl. When the old doctor returned for his watch he was informed of what had been done, one of the servants leading the way to where the thing had been drowned. It was found hanging on a bush on the bank of the moat. The failure to beat or drown the thing to death fully convinced the servants that it was in reality the old wizard's spirit, and they could not be persuaded to touch it. The story is related to show what rarities watches must have been even at that late period of the seventeenth century. In 1769 one of the admirers of George III. caused to be made for that monarch a watch which was a marvel in its way. It had a calendar hand which pointed to the days of the month and of the year. Instead of making a revolution every month, like calendar watches of to-day, it took the whole 365 days to get once around. The dial-plate was only two inches in diameter, therefore the figures must have been very minute, otherwise the 365 numerals could not have been arranged around the border. The annual dial-calendar was but one of a number of extras with which this watch was provided. A movable diamond performed diurnal revolutions as regularly as did the great orb after which it was modeled, it struck the hours, the half-hours, and the quarters, while an inside dial-plate revolved in a manner clearly exhibiting the variations of the seasons. The English House of Commons, following a suggestion of Sir Isaac Newton, appointed a committee June 11, 1714, with power to offer a reward of £20,000 to anyone who would invent an accurate time-keeper for use at sea in determining longitude. After many years of labor and study the invention was announced as perfected. However, the inventor, one John Harrison, did not receive the reward for his labor until Sept. 14, 1764. Keyless watches have been known for the past hundred years, but not until the past twenty-five have they come into general use. It would take columns to enumerate all the dainty and wonderful little time-pieces that have been made during the past 200 years. They have been made no larger than peas, and set in rings for physicians to facilitate the counting of the pulse. They have been fixed in bracelets, brooches, eye-glasses, tops of umbrella-handles and even on the ends of lead pencils, where they occupy the same position as the rubber on the average Faber. In 1883 a watchmaker of Dresden exhibited a watch made entirely of paper. The paper was chemically prepared and the maker claimed that it would be as serviceable as if made of the material ordinarily used. The same year at a fair held at Worcestershire, England, Crowther Bros. & Co., exhibited one made entirely of iron. An ingenious prisoner at Kariaus, Bohemia, recently constructed a watch eight centimeters in diameter, with no other tools or material except two needles, a spool of thread, a newspaper and some rye straw. The wheels, posts and cogs are all made of the rye straw, which it is well known is quite coarse and tough. It runs six hours without winding and keeps good time. It is now in the possession of the Prefect of Kariaus, who considers it the greatest marvel of the nineteenth century. The most ingenious, perfect and complex watch ever manufactured was sent out from the works of Patek, Philippe & Co., of Geneva, Switzerland, in July 1877, and is now in possession of Baron

Nicholas. It is what is known as the full-sized "hunter." On one side there is a dial of the regulation kind, exhibiting the hour, minute, and second hands; also an independant chronograph hand which marks the fifth of seconds. The same dial has repeating mechanism which strikes the hours, quarters and minutes. The opposite dial has hands pointing to the months, weeks and days. Another large central hand on this dial, if set at the beginning of each year, correctly points to all moon phases and also acts as a perpetual calendar. It is so constructed as to admit of its keeping two different times, say standard on one side and sun time on the other.

WASTED STUDY.

CULTIVATING THE LOWER AT THE EXPENSE OF THE HIGHER MENTAL FACULTIES.

Probably ninety-nine per cent. of all professional men regret the time spent during youth in the study of the ancient languages, believing the time could have been more profitably spent. Physicians having sons to educate, should remember their own feelings, and not insist upon "the boys" treading in the same paths. Felix L. Oswald, M. D., in the September number of the *Popular Science Monthly*, makes a plea for this. He says: Not one of a hundred non-philological students (graduates devoting themselves to the special study and the teaching of ancient languages) would ever dream of continuing his antiquarian pursuits or be able to look upon a Greek or Latin text book without a shudder of disgust. It has been conclusively proved that all the etymological benefits derived from linguistic graveyards could be reaped in a single year by the study of root-words (most of them familiarized by their English and French derivatives). It has been demonstrated to the satisfaction of every impartial thinker that grammar drill is *not* the superlative intellectual exercise vaunted in the arguments of its advocates, but, on the contrary, almost the worst of all possible systems of mental training—a dead-lift of memory, exercising the lower at the expense of the higher mental faculties. Nor is there a shadow of doubt that in natural history, astronomy, geography, geology, physiology and mathematics, the achievements of Greece and Rome have been distanced as far as their own writers eclipsed the wisacres of Scythia and Abyssinia. Yet the New World continues to emulate the Old in wooing the spectres of the past, and thousands of American parents encumber the memory of their children with a mass of antiquarian rubbish that leaves no room for the culture of progressive science, too often not even for the adequate study of their own mother-tongue.

SPECTACLE LENSES.

HOW THEY ARE CUT OUT OF A SHEET OF GLASS.

The work of cutting is all performed with a tiny fragment of diamond, known in the trade as a spark. It is not every spark, however, that will cut a lens. The sparks are mounted in the following manner: A piece of brass wire is selected, say $\frac{1}{8}$ of an inch in diameter, a hole is drilled in the end large enough to admit the spark, and it is set in the hole with the point up. The outer edge or shell of the wire is beaten inward and holds the spark firmly in place. The wire is then placed in the lathe and cut off just back of the spark, turning the end hemispherical, using the point of the spark that sticks through the brass as a centre. A piece of steel wire is next selected, of the same diameter as the brass wire, and the end is turned in, forming a cup. The mounted spark is then soft-soldered into this cup and it is ready for the machine, which works automatically from a pattern, and can be set to cut larger or smaller than the pattern. Before the mounted spark is placed in the machine, however, it is tested by holding the handle upright. If it does not cut in an

upright position, the point is unsoldered by means of the blowpipe and the handle resoldered, leaving the cutting point at the required angle, while the handle itself is upright. When the spark is found to cut well in an upright position, it is then placed in the machine for trial. The glass is placed upon a pad under the spark, the glass varying in form according to the kind of lens being cut. If the lens is flat, the pad is also, and if the lens is convex the pad is concave, and must be a perfect fit; for the better the fit, the more accurate will be the work. The pattern and glass travel around while the diamond remains stationary. The life of a spark is short, some being only one day, while once in a while they can be worked for a year. The workmen average fifty dozen pair of lenses per day. A good diamond will cut on an average of 1,500 dozen pairs. The average lens measures four inches around, and a dozen pairs would be eight feet. In cutting 1,500 dozen pairs, the spark would travel over a surface equal to a piece of glass 12,000 feet long. There are exceptional sparks that cut for months. I now have one which has been in operation for fifteen months and has cut 7,200 dozen pairs, traveling about 57,600 feet. We use two kinds of sparks, the Brazilian and the African, and they cost from \$3 to \$5 each.—*American Jeweler*.

FALL CHESTNUT.—First Squirrel: What are you doing for a living now?

Second Squirrel: Oh, chestnuts.

KNEW HER BUSINESS.—Lady (in intelligence office): "Have you ever minded children before?"

Nurse: "No, mum; but I've made manny a choild mind me."

HAD EXPERIENCE.—Lawyer: "Do you understand the nature of an oath, madam?"

Witness: "Well, I should say I did. My husband took off the screens yesterday, and is putting up the stovepipes to-day."

SHEET IRON HOUSES.—A system of building houses entirely of sheet iron has been communicated to the Society of Architecture, in Paris. The walls, partitions, roofs and wainscoting are composed of double metallic sheets, separated by an air mattress, which is surrounded by different non-conductors of heat.

A NEW FORM OF FUEL.—An Indiana man grinds corn stalks and coarse prairie grass, moistens them with water, reduces them to a coarse pulp and then subjects the mass to a heavy pressure, compressing them into blocks 12x4 and 4 inches thick. These, when thoroughly dry, furnish more heat than ordinary bituminous coal.

COTTON SEED.—One of the most surprising features of the modern business world is the extensive use of cotton seed, formerly considered worthless. According to the *New York Tribune*, over 800,000 tons of these seeds are now pressed for their oil, from 36 to 40 pounds being obtained from each ton. The consumption of cotton seed oil is increasing both in this country and in Europe, and new uses for the oil are constantly being discovered.

BRICK ESTIMATES.—Readers in many branches of trade will be glad to know this method of estimating brickwork, which is obtained from an authority on the subject: Ordinary bricks are about eight inches in length, and, with the mortar joint, about half that in width, so that each brick on the flat will give a horizontal surface of about 32 square inches, or $4\frac{1}{2}$ bricks will cover a square foot. As ordinarily laid, there are nine courses to every 24 inches, or $4\frac{1}{2}$ to the foot. Four and a half courses with $4\frac{1}{2}$ bricks to the course, will give $20\frac{1}{4}$ bricks to the cubic foot. Waste, cutting, and closer joints will easily require an allowance of twenty-one bricks per cubic foot, which will be found a very convenient figure for estimating the number of bricks required for a wall of given height and thickness, as it thus becomes unnecessary to find the cubic contents of the wall, but merely to multiply its face area, or the product of its length and height in feet, by seven-fourths of its thickness in inches, which, as the thickness is always some multiple of the four inches, is a very simple process.—*The Artisan*.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Amud Hamworthy & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

Delicious Drink

Horsford's Acid Phosphate

Makes a healthful and invigorating drink with water and sugar only. It harmonizes with such stimulants as may be necessary to take. A desirable substitute for lemons or lime juice. Alays the thirst, aids digestion, and relieves lassitude.

"Dr. T. C. Smith, Charlotte, N. C., says:

"An invaluable nerve tonic, a delightful beverage, and one of the best restorers when the energies flag and the spirits droop."

Dr. J. S. Niles, Pownal, Vt., says:

"Excellent as a tonic, and refreshing as a substitute for lemonade."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

HOW TO MISS IT.—Fortune knocks once at every man's door, but she doesn't go hunting through beer saloons for him if he happens to be out.—*Puck.*

SMALL AVERAGE.—The largest animal known is the torquial, which is about 100 feet in length. The smallest is the twilight monad, whose dimensions are 1/1000 of an inch. It is evident that the middle term is one-third of an inch, about the length of the common house fly, which may, therefore, be considered as an animal of medium size in the creation.

LIGHT AND LIFE.—An English scientist has been making experiments to determine the important part which light plays in the development of animal life. A dozen tadpoles were confined in a box from which every ray of light was excluded. The result was that only two of them developed into frogs, and those were short lived. The others increased considerably in size, but never left the tadpole form.

TYPHOID FEVER.—Dr. Edson, of the New York Board of Health, sums up his conclusions in regard to typhoid fever, as follows: First, that typhoid fever never infects the atmosphere; second, that it never arises *de novo*, and third, that the causes of the disease, in order of their frequency, are as follows: First, infected water; second, infected milk; third, infected ice; fourth, digital infections; fifth, infected meat.

COLLEGE DEGREES.

The American Academy of Medicine is endeavoring to make as complete a list as possible of the Alumni of Literary Colleges, in the United States and Canada, who have received the degree of M. D. All recipients of both degrees, literary and medical, are requested to forward their names at once, to Dr. R. J. Dunlison, Secretary, 814 N. 16th street, Philadelphia, Pa.

NEW MAGAZINE.

The *National Magazine* is the name of a new literary venture of Chicago, which begins with the October number. It is published under the auspices of the new "National University," which opens October 1, of which it is the organ. The first number will contain articles on literary, educational and scientific subjects, and a prospectus of the University, which is said to be modelled after the London University and has extensive non-resident courses, teaching many subjects by mail. Published at 182 Clark street.

BUSINESS NOTES.

THE MOST NOTED DERMATOLOGIST OF THE WORLD.

The accompanying cut will be recognized as John H. Woodbury, the noted dermatologist, who has gained a reputation unsurpassed by any others; universally acknowledged by thousands of patients who have successfully been treated by him for the skin or scalp during his practice of twenty years or over. The most common subject to arouse skeptics is dermatology—caused by frauds who, having

J. H. Woodbury, a small capital and still smaller experience, place before the public a specific or cure-all, and after benefit is derived from their sales they disappear, never to be heard of again. John H. Woodbury has outlasted them all. He has convinced skeptics that dermatology is a study, which by a score or years of constant practice has, and will prove the most wonderful results in the treatment of the hair and scalp, eczema, moles, warts, superfluous hair, birth marks, moth, freckles, tan, wrinkles, red nose, red veins, oily skin, acne, pimples, blackheads, barber's itch, scars, pitings, powder marks, bleaching, facial development, etc. Every honorable physician must know that it is utterly impossible for any one medicine to cure all forms of disease, whether external or internal, and that in order to treat the various ills of the body successfully, or at all, he must first diagnose the trouble he is called upon to treat, and then prescribe that medicine which seems best suited for its cure. John H. Woodbury's treatment of all the different affections of the skin and scalp is, first, to make a correct diagnosis in every case, and then prepare such

medicines as the case requires, which by experience of twenty years has taught him to believe the most effective for their cure. From this it will be plainly seen that his treatment is the only one calculated to effect perfect cures without temporizing with his patients, or extorting money from them. A perfect diagnosis can be made by people distant from his office by sending 10 cents for his 128 page book (6th edition), revised and illustrated, containing a treatise on "Disfigurements and Imperfections of the Skin, and their Treatment." This valuable informant enables one to become enlightened on the study of dermatology to such an extent as to be able to diagnose their own imperfections by accurately describing the same by mail, and always receiving John H. Woodbury's own personal attention, they can be treated successfully and permanently cured. His increasing practise has compelled him to remove, and he now occupies the elegant four-story and basement brown-stone front building, with laboratory in the rear, at 125 West 42d Street, New York City. Hours: 9 A. M. to 9 P. M.; also Sundays. Consultation free. John H. Woodbury's facial soap is and has been nonpareil for the skin and scalp. It is the only soap of its kind ever placed on the market, and constantly used will permanently keep the skin in a clear and healthy condition. Sold by all druggists, or by mail, price 50 cents.

FOR TIRED BRAIN

USE HORSFORD'S ACID PHOSPHATE.

Dr. O. C. Stout, Syracuse, N. Y., says: "I gave it to one patient who was unable to transact the most ordinary business, because his brain was 'tired and confused' upon the least mental exertion. Immediate benefit, and ultimate recovery followed."

PRINTERS' AND OTHER INK.

In considering the wonders accomplished with printers' ink, due credit should be given to the Esterbrook Steel Pen with which the printers' copy was written.

CATARRH
HAY FEVER
CATARRHAL
DEAFNESS

A NEW TREATMENT.
Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been discovered which permanently cures the most aggravated cases of these distressing diseases by a few simple applications made (two weeks apart) by the patient at home. A pamphlet explaining this new treatment is sent free by A. H. Dixon & Son, 337 and 339 West King Street, Toronto, Canada.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME
OF
ON LABEL,
AND GET
THE GENUINE
HARTSHORN

WHOOPING COUGH CURED

Or Prevented by Page's Vaporizer and Cresolene.



We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for **Whooping Cough**, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

THE
VIBURNUM COMPOUND
OF
DR. HAYDEN,
THE STANDARD IN
FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND.**

DISPENSED BY ALL APOTHECARIES.

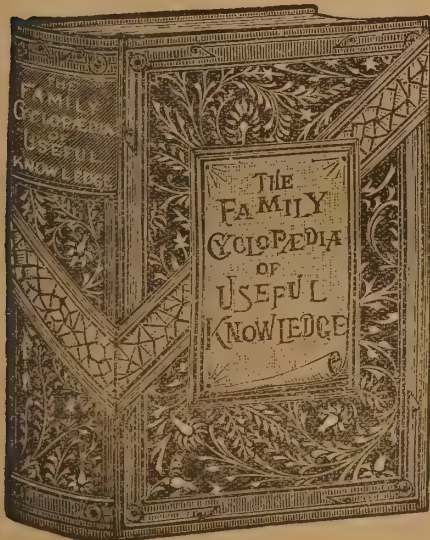
ESTERBROOK'S STEEL PENS
Leading Numbers 14,048,128
ESTERBROOK'S FALCON PEN 130, 135, 333, 161.

—For sale by all stationers.—

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.
WORKS: CAMDEN, N. J.

**A VALUABLE BOOK FOR NOTHING.**

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.

This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPEDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a New Subscription with **One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

ROBINSON'S SURE CURE FOR RHEUMATISM And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pittings, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 123-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist, 125 West 42d Street, NEW YORK CITY, N. Y.
P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

❖ PICTURES. ❖

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,

at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
47 West Twenty-second Street.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.
STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

THE AMERICAN ANALYST.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

OUR MISSION.

WHAT THE AMERICAN ANALYST IS DOING.

FIGHTING ADULTERATION.

The steadily growing favor which the AMERICAN ANALYST is constantly receiving at the hands of both the reading and the business public is the best evidence that could be afforded of the useful field of effort it occupies. It was the pioneer journal in this country to take up the fight against adulteration, and stands to-day, by public acknowledgment, the only competent exponent of the principles involved in that momentous struggle. To this end the realm of sophistication and fraud has been thoroughly explored, and its corruptions, as far as practicable, exposed to the public view. Charlatans, adulterators, and handlers of poisonous food have been summarily and uncompromisingly dealt with. Humbugs seeking to enrich themselves, through the sale of high-sounding specifics for human ailments, have been subjected to the crucial test of thorough chemical analysis of their goods, and where the latter, as too frequently occurred, proved to be utter frauds in name, composition, and pretended effects upon the system, the real facts have been placed before our readers in order to save the public from further unconscious imposition. The veil of chemical mystery in which tricksters of this kind ostentatiously envelop their processes of manufacture, protects them as yet from the criminal laws to which other confidence operators are held amenable, and the only method for counteracting their nefarious schemes is through public exposure by the newspaper press. In exposing this species of fraud, the AMERICAN ANALYST has conferred a benefit upon the community, to which the latter is giving grateful and substantial recognition.

SANITARY AND FOOD REFORMS.

In addition to the foregoing, the AMERICAN ANALYST is in constant co-operation with the Boards of Health of this and other cities, in efforts to secure sanitary and food reforms through organized methods, and while it is nobody's mouthpiece, it is conceded to be the only pop-

ular medium through which those bodies can bring their purposes and action intelligently before the general public. Reaching as it does all classes—manufacturers, merchants, physicians, chemists and private families all over the land—its influence is exerted over a vast radius, producing results as visibly marked as they are widespread.

DOMESTIC DIETETICS

Is a department of special interest to ladies. It is very different and far superior to the ordinary cook-book, in that it tells the housewife suggestively what to buy, what foods are in season, as well as how to prepare the many varieties of dishes, all in a practical way, easily followed. Other matters of great interest to housewives are also discussed.

PRACTICAL DISCUSSIONS.

Numerous other interests are also faithfully represented in our columns, such as articles relating to common experiences of society, the question of hygiene, and an infinite variety of practical subjects. In short, the AMERICAN ANALYST also keeps abreast in giving the fullest information on all matters directly or indirectly in the line of its proper field.

SCIENTIFIC INVESTIGATIONS.

The business transacted in the office of the AMERICAN ANALYST does not by any means all come to the surface in the pages of the paper. Minute analysis of chemical compounds, careful assays of minerals, examinations of questionable oils or doubtful condiments, and the many subtle operations incident to laboratory work are constantly required of us by correspondents far and near, and the results in many cases are not publicly recorded. In this manner, the influence of the paper encompasses a vast radius, from every point of which we receive constant expressions of approval, verbally, and in more substantial shape.

ITS VALUE TO ADVERTISERS.

No person can scrutinize the advertising pages of this journal without being impressed with the uniform high character of the numerous houses who find our columns the most desirable—because the most effective—medium for advancing their interests throughout the country in the several directions to which they respectively pertain. The steady growth of our subscription lists, extending to every State in the Union, and in fact all over the world, affords another gratifying evidence of the approval given to our endeavors to sustain genuine manufactures, and to expose pururious, fraudulent, and harmful knavery.

SUBSCRIPTION \$1 PER YEAR.

Considering the amount of practical information regularly embodied in its contents, together with the fact that the subscription price for an entire year is only one dollar we believe the day is approaching when the AMERICAN ANALYST will be regularly welcomed in every intelligent household in the land. Address,

ANALYST PUBLISHING CO.,
19 Park Place, N. Y.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

WE ARE CONFIDENT that we have Reached the HIGHEST DEGREE OF PERFECTION in Solving the INFANT FOOD PROBLEM.

LACTO-PREPARATA.

A Prepared Human Milk perfectly Sterilized and especially designed for Children from birth to six or eight months of age.

Made wholly from cow's milk with the exception that the fat of the milk is partially replaced by cocoa butter. Cocoa butter is identical with milk fat in food value and digestibility, being deficient only in the principle which causes rancidity. The milk in LACTO-PREPARATA is treated with Extract of Pancreas at a temperature of 105 degrees, a sufficient length of time to render twenty-five per cent. of the casein soluble, and partially prepare the fat for assimilation. In this process the remaining portion of the casein not peptonized, is acted upon by the pancreatic ferment in such a manner as to destroy its tough, tenacious character, so that it will coagulate in light and flocculent curds, like the casein in human milk.

Composition:	ALBUMINOIDS.....	19 Parts.	SEND FOR SAMPLE and compare it with every other food used in artificial feeding of Infants.
	MILK SUGAR.....	64 "	
	FAT.....	10 "	
	MINERAL MATTER.....	3 "	
	CHLORIDE OF SODIUM added.....	1/2 "	
	PHOSPHATES OF LIME added.....	1/2 "	
	MOISTURE.....	3 "	

LACTO-PREPARATA is not designed to replace our SOLUBLE FOOD but is better adapted for Infants up to eight months of age.

CARNRICK'S SOLUBLE FOOD.

Is the Nearest Approach to Human Milk that has thus far been produced, with the exception of Lacto-Preparata.

During the past season a large number of Physicians and eminent Chemists visited our Laboratory at Goshen, N. Y., and witnessed every detail connected with the production of Carnrick's Soluble Food. This invitation to witness our process is continuously open to Physicians and Chemists. All expenses from New York to Goshen and return will be paid by us. The care used in gathering the milk, its sterilization, and the cleanliness exercised in every step, cannot be excelled. Soluble Food has been improved by increasing the quantity of milk sugar and partially replacing the milk fat with cocoa butter.

PHOSPHO-CAFFEIN COMP. (GRANULAR EFFERVESCENT.) A SEDATIVE, NERVE AND BRAIN FOOD.

This preparation has been thoroughly tested, and found to produce the happiest effects in Headaches, Neuralgia, Sleeplessness and General Nervous Irritability. We are confident that the above combination will be found superior to any of the various preparations that are used in nervous affections. It is not only a nerve sedative but a Brain and Nerve Food. The depressing effects of the sedative ingredients are fully overcome by its reconstructive constituents.

As a harmless and positive remedy in Headaches and Insomnia we are certain it has no equal. It is far more palatable than any of the preparations used for similar purposes.

PUT UP IN FOUR, EIGHT AND THIRTY-TWO OUNCE BOTTLES.

REED & CARNRICK, New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Magazine.....	\$3 00 \$3 25	Golden Days.....	\$3 00 \$3 00
American Rural Home.....	75 1 05	Good Housekeeping.....	2 50 3 00
American Agriculturist.....	1 50 1 60	Harper's Bazar.....	4 00 4 00
Art Amateur.....	3 50 4 00	Harper's Young People.....	2 00 2 25
Arthur's Home Magazine.....	2 00 2 00	Harper's Weekly.....	4 00 4 00
Art Interchange.....	3 00 3 25	Harper's Monthly.....	4 00 3 50
Babyhood.....	1 50 1 60	Household.....	1 10 1 25
Ballou's Magazine.....	1 50 1 75	Housekeeper.....	1 00 1 25
Bedford's Magazine.....	2 50 3 00	Ledger.....	3 00 3 00
Cassell's Family Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Little Ones and Nursery.....	1 50 1 65
Christian Union.....	3 00 3 00	Peck's Sun.....	2 00 2 25
Cottage Hearth.....	1 50 1 50	Peterson's Magazine.....	2 00 2 00
Country Gentleman.....	2 50 2 50	Puck.....	5 00 4 50
Current Literature.....	2 50 2 75	Rural New Yorker.....	2 00 2 30
Demorest's Magazine.....	2 00 2 00	Saturday Night, Philadelphia.....	3 00 3 00
Family Story Paper.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Farm and Fireside.....	50 1 00	Scientific American.....	3 00 3 25
Fireside Companion.....	3 00 3 00	Scribner's Magazine.....	3 00 3 00
Forum.....	5 00 5 00	Vick's Illustrated Monthly.....	1 25 1 50
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Western Rural.....	1 50 2 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Wide Awake.....	2 40 2 60
Galaxy of Music.....	1 00 1 25	Yankee Blade.....	2 00 1 50
Gleason's Home Circle.....	2 00 1 50	Young Ladies' Journal.....	4 00 3 50
Godey's Lady's Book.....	2 00 2 25	Youth's Companion.....	1 85 2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

INVALUABLE TO EVERY HOUSEWIFE!

THE MODERN COOK-BOOK AND MEDICAL GUIDE.

This is practically two books in one—a perfect cook-book and a perfect medical book—and there is so much in it, and so much care and pains have been taken in its compilation, that we feel perfectly safe in asserting that the Cooking department is fully the equal, in quantity and quality of contents, of any low-priced cook-book published, and the same as to the medical department herein as compared with any low-priced medical work on the market. It is a complete encyclopedia of domestic information, and we fully believe that no lady, after having it in the house a short time, would willingly do without it for ten times its cost. The cooking recipes number 627, and include Breakfast Dishes, Soups, Meats and Poultry, Fish, Vegetables, Salads and Relishes, Bread and Rolls, Jellies and Preserves, Puddings and Pies, Fancy Dishes, Cakes, Confectionery, Ice Cream and Summer Drinks. The compilation of this department was superintended by a practical housekeeper, every recipe will be found reliable, and it has been pronounced one of the best, most complete, and practical cook-books published. The Medical Department will be found fully the equal of any doctor book published at one dollar or less. It tells you how to cure, by simple means, available in every home, Malaria, Pneumonia, Poisons (antidotes for), Nervousness, Measles, Rheumatism, Toothache, Wounds, Sprains and Bruises, Weak and Inflamed Eyes, Dust in the Eye, Sore Throat, Sore Head, Whooping Cough, Neuralgia, Earache, Worms, Warts, Burns and Scalds, Headache, Offensive Breath, Bleeding (to stop), Cancer, Consumption, Felons, Dyspepsia, Dysentery, Diphtheria, Diarrhea, Croup, Corns, Liqueur Appetite, Coughs and Colds, Cold in the Head, Catarrh, Scarlet Fever, Nose Bleed, Baldness, Smallpox, Sleeplessness, Ringworm, Chilblains, Costiveness, Cholera Morbus, Bright's Disease, Convulsions, Mumps, Superfluous Hair (to remove), Hysterics, Colic, Scatica, Biliousness, Nettle Rash, Typhoid Fever, Ingrowing Toe Nails, Abscess, Stammering, Hemorrhage, Asthma, Hydrophobia, Scrofula, Bronchitis, Lockjaw, Erysipelas, Hoarseness, Chills and Fever, Dropsy, Bunions, Fits, Dandruff, Scurf, Quinsey, Heartburn, Styes, Liver Complaint, Cramps, Corpulence, Sunstroke, Knock-knees, Indigestion, Jaundice, Gout, Prickly Heat, Ulcers, Salt Rheum, Fainting, Boils, Tobacco Habit, Gray Hair (to prevent), Cholera Infantum, Deafness, Stiff Neck, Piles, Choking, Freckles, Pimples, Sunburn, Chapped Hands, and many other ailments. It will save you many dollars annually in doctors' bills and patent medicines. Who can doubt that twenty-five cents invested in such a useful and valuable book as this would be the best and most profitable investment that could possibly be made of so small a sum? THE MODERN COOK BOOK AND MEDICAL GUIDE is a large book of 128 pages, neatly bound in colored covers. It will be sent by mail post-paid to any address upon receipt of only **Twenty-five Cents.**

Address,

ANALYST PUBLISHING COMPANY,

19 PARK PLAE, NEW YORK.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88

North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest and Most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in Cans.

PRICE BAKING POWDER CO.

NEW YORK. CHICAGO. ST. LOUIS.
SAN FRANCISCO.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2."

It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation, physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

GOOD AGENTS wanted to solicit subscriptions and advertisements for the AMERICAN ANALYST. Apply 19 Park Place, N. Y.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY-STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

EXPERIMENT STATION.
OCT 23 1888
UNIVERSITY OF ILLINOIS

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 43.

NEW YORK, THURSDAY, OCTOBER 24, 1889.

WHOLE No. 139

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Atoms.....	508
Cigarette Abomination.....	508
Children's Eyes.....	507
Craze vs. Culture.....	509
Domestic Dietetics.....	508
Editorials.....	505
Dangers of Hypnotism; Unknown Senses; Hygienic Convention; French Spiritualists; Our Mexican Trade; The Government Geologist.	
Spectrum Analysis.....	507
The Three Flies.—A Fable.....	506
What to Drink.....	508

DANGERS OF HYPNOTISM.

Hypnotism flourishes in France, and while, as recently stated in this column, some of the prominent physicians of that nation seldom use it for therapeutical purposes, others consider it an invaluable curative instrument. Many of the leading German doctors, however, raise warning voices against its use—or perhaps we should say, against its abuse. The learned Prof. Ziemssen of Munich, announces it as his conclusion that while hypnotic treatment may be of some use in slight functional disturbance, it may be harmful to many patients. The difficulty is that suggestion and fixation remove a symptom for the time being only, but have no influence on the disease itself. Many persons especially men, fail entirely to respond to hypnotism, and in fact only the so called nervous constitution is influenced by it. There is hardly a case on record where it gave a decided benefit in several neurotic diseases, as epilepsy, chorea, paralysis, agitans. It cannot be denied that some severe symptoms of hysteria, as convulsions, paralysis or contractures have been temporarily removed by hypnotism, but it is only a change from one anomalous

state of the brain into another one. It is in fact analogous to the treatment of morphinism by changing it into cocainism. Not only in hysterical patients, but also in healthy persons, it can be shown that the Nancy school is off the track when they consider hypnosis a state related to natural sleep. It is far more a pathological state, developing itself by frequent repetition into a state which may be called psychotic. It is a well-known fact that frequent repetition may increase hypnotization to such a degree that the patient becomes autohypnotic by fixing his vision on a shining point, or he may become even hypnotized by the mere approach of the physician. Thus a patient may fall into a lasting state of debility of the centres presiding over conscious cognition and will-power. We do not know yet all the injuries heaped upon the brain by repeated hypnotization. If such treatment needs all the knowledge of the conscientious physician, how much the abuse must be feared when people apply it promiscuously?

UNKNOWN SENSES.

The president of the British Association, Professor Flower, endorses Sir John Lubbock's idea that the field of inquiry is limitless, and that there may be "fifty other senses as different from ours as sound is from sight; and even within the boundaries of our own senses there may be endless sounds which we cannot hear, and colors as different as red from green of which we have no conception. These and a thousand other questions remain for solution. The familiar world which surrounds us may be a totally different place to other animals. To them it may be full of music which we cannot hear, of color which we cannot see, of sensations which we cannot conceive."

A HYGIENIC CONVENTION.

In our issue of September 26, we published a detailed account of the preparations being made for the annual meeting of the American Public Health Association to be held in Brooklyn on the 22d inst., continuing four days. The *Chicago Sanitary News*, of October 12, says in reference to the important gathering:

The association consists of about eight hundred members, and probably exerts the greatest influence on public health of any association of a similar character. It is national in its composition and labors, and allied with many associations of the same general character. Its object is the promotion of the public health and the advancement of general sanitation. Among its members are to be found our most advanced sanitarians, and its annuals, "Public Health," are among the best additions to the literature of preventive medicine we have. We have published the list of subjects to be discussed at the coming meeting, a reference to which will show the general character and scope of the work performed at these meetings and the great value of it to the cause of sanitation. The subjects selected are of the highest importance, and the high character and ability of the membership will insure a treatment of these subjects that will render a service to sanitary sciences that

could be obtained no where else. They will be not only of practical value, but coming from the high source they do, they will give to that science the dignity and elevation that come from authorities in any matter. The object they seek to promote must necessarily partake of the nature of the membership of this association. No association could be formed having for its object a greater or more important aim than this one has. Its value to the public renders it worthy of national support and aid in the dissemination of the knowledge it obtains regarding public hygiene. The endorsement of every one who values health and happiness will be given it, for it means much to the individual. It means the prevention of those diseases which seek a stealthy entrance to the homes and leave vacant chairs about the fireside. In order to render a greater service to the cause of sanitation to advance it in every particular, the association this year has taken a step in advance and will have on exhibition everything available adapted to the promotion of public hygiene.

FRENCH SPIRITUALISTS.

Among the interesting gatherings that have assembled in Paris during the past season, attracted thither by the great Exhibition, was an International Congress of Spiritualists. The New York representative was Mr. H. Lacroix, editor of *La Spirite*, a Paris publication, who at one of the sessions raised quite a tumult by his opposition to a resolution declaring Allan Kardec to be the founder of modern Spiritualism. He said that he opposed it in the name of 40,000 American Spiritualists. His protest, however, had no effect. Several medical men took an active part in the recent congress. These members must have satisfied themselves that there was something outside of the common order of phenomena in Spiritualistic manifestations before risking their professional reputation by showing an active interest in the movement. Two classes of investigators were, however, represented. On the one hand, there were the genuine Spiritualists, who believe that the communications which are received through "mediums" really come from spiritual beings. On the other hand, there were those who recognize the phenomena of Spiritualism, but who connect them with physical laws, the operations of which are as yet imperfectly understood. These people speak of psychic force, while they either deny the existence of spirit in nature or contend that no conclusive evidence of such existence has yet been offered. It is possible, therefore, to believe in the phenomena ordinarily attributed to Spiritualism while maintaining that when a man dies all that composes his individuality dies with him. By far the greater number of the delegates repudiated this materialistic doctrine.

OUR MEXICAN TRADE.

The Mexican *Economist*, the best authority on Mexican finance and statistics, gives some facts and figures regarding the condition of trade between Mexico and the United States which are regarded as rather startling, and which differ materially from those given out at Washington. It says that in the fiscal year 1887-88



ROCK CANDY and ROCK CANDY SYRUPS.

For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

the value of the exports from the United States to Mexico was in American coin \$19,264,675, and that the value of exports from Mexico to the United States during the same period was \$23,294,000. These figures are regarded as the most accurate that have ever been obtained, and show that exports from the United States to Mexico are several millions larger than heretofore stated by either Mexican or United States authority.

THE GOVERNMENT GEOLOGIST.

Maj. J. W. Powell, Director of the U. S. Geological Survey, who accompanied the Senate Committee on Irrigation on their recent tour through the Northwest, probably knows more about the western half of the continent than any other man living. He has been an explorer and pathfinder in the mountains and on the great plains and through the deep canyons of great rivers almost ever since the close of the civil war. When the war broke out, he was a college professor in Illinois. He went into the artillery service, lost an arm at Shiloh, rose to the position of Chief of Artillery in one of the great armies, and then, when peace was restored, unbuckled his sword and went back to his professor's desk. Thence he was soon summoned by the government to undertake important surveys in the new territories. He is now the head of the extensive organization which is prosecuting a geological survey of the entire country. Incidental to this work, and authorized by a special act of Congress, is the survey of the streams and drainage basins in the arid regions, and the reservation of reservoir sites, with a view to the construction of future irrigation works. Major Powell is a man of about fifty-five, of a somewhat gnarled and rugged appearance, showing the traces of the many hardships and rude adventures he has gone through; but of a genial temper and an active and buoyant spirit. He is an exceeding interesting talker, whether in conversation or on his feet before public assemblies, and brims over with scientific information which he has the art of making entertaining to the most unscientific listener.

SACCHARINE IN EUROPE.—Saccharine, which is three hundred times sweeter than sugar, is beginning to be felt by the beet sugar manufacturers as a very dangerous enemy. It is stated that in Germany, already, so much saccharine has been made as to render 5,000 tons of beet sugar superfluous. It is principally employed in the preparation of fruits and the production of sweet liquors. It is not a food stuff. Indeed, it has been condemned by eminent medical authorities as directly prejudicial to health. The sugar manufacturers are of the opinion that saccharine should only be sold by chemists. France, Italy and Portugal are already contemplating imposing a tax upon it.

THE THREE FLIES.

FATAL RESULTS OF FILIAL DISOBEDIENCE AND OF EATING FOOD PREPARED FOR MAN.

(From the French of *Maxime du Camp*.)

Mrs. Fly had three children. She was not a widow, but her husband, who was passionately fond of traveling, had one day flown away in search of adventures, and since that time she had never heard from him. The poor forsaken wife bore her fate with dignity, and devoted herself to the education of her son Muscarello and her daughters Muscabella and Muscadine. When the children had reached their majority and learned from her all she could teach them, Mrs. Fly called them to her side one day, and looking at them lovingly, said with great emotion:

"The time has come for you to finish your education. You must leave me and go out into the world, and learn from Nature what she has to offer to those who seek to profit from her instructions. Travel is needful for the young. It develops their intelligence by giving them an opportunity of drawing comparisons. It will soften your hearts, inasmuch as it will initiate you into the miseries the fly race is subjected to. Go then, my dear children, to gather information upon every subject, and experience in the ways of the world, without which you can never become useful or good citizens or good parents. Before I take leave of you and give you my blessing, listen to the counsel of your doting mother, who has not hesitated to make every sacrifice, in order that you might become perfect beings, and who wishes to prepare you for the dangers you will encounter upon your travels.

The whole world is open to the flies. It belongs to them, it was created for them. Every where flies find luscious food which Dame Nature prepares for them. Fruits, cereals and animals belong to them. Do not hesitate to satisfy your hunger for the food your Creator has prepared for you. But as you value your life, beware of touching anything prepared by the hand of man. He is a wild animal, without honor, pity or virtue. He is—so he boasts—the king of all creatures, and he seeks to prove it in that he destroys them. What passes through man's hands comes forth adulterated—he is a liar in his words, works and actions. He despises our race. As soon as his children, who are reared with difficulty, are taught the habits of cleanliness, and reach the age when it is expected of them to learn an ancient language called Latin, a book is given them in which this adage is found: '*Puer abige muscas.*' Oh! my dear children, avoid man, do not touch his concoctions. Promise your mother solemnly, that upon this point you will conform to her wishes."

The three flies who could scarcely restrain their sobs, said, with trembling voices, "We promise it."

"I expected this promise from you. Farewell, then my dear children. Muscarello, my son, I confide your sisters to your care. You were born a few seconds before them; you are the eldest and you must be their protector. I have often admired the strength of your wings, and the nimbleness of your legs and your keensighted comprehension. Use these noble gifts to watch over, to defend my daughters, and to prevent them from making mistakes, which young and inexperienced flies are so often tempted to make. Receive them from my hands as a precious treasure for which I shall require an account of you. If your travels lead to Miapolis, and you should meet your father there, tell him that his faithful wife longingly awaits his return to his fireside. And now let us be strong. To-night we will sleep near each other, but to-morrow morning, as soon as the haze is dispersed, and we have taken our first breakfast, you must set out on your journey. Do not forget in your travels your sorrowing mother, who will never cease to think of you."

The next morning the mother blessed her children, pressed them to her heart, and lovingly looked after them as they flew away. At the very moment they

fluttered out of sight, an Auvergnat passed and played upon his organ the tune of "Gratia Dei."

"How large and beautiful this world is," exclaimed Muscarello, and his sisters were enchanted and uttered constant screams of delight, at the same time feasting their eyes upon the beauties of Nature surrounding them. They said to each other, "How many delightful reminiscences, how many grand impressions we shall treasure up for our old age. We shall have many marvellous adventures to relate to our grandchildren, if we are ever fortunate enough to have any."

Completely worn out with fatigue, yet intoxicated with enthusiasm, they took up their first night's quarters upon a sycamore tree, a leaf of which protected them from the dampness. Muscadine, the younger sister, who had a beautiful voice, sang a cradle song that their mother had often hummed to lull them to sleep. The song recalled to the three flies their childhood's days, and after they had dropped asleep they dreamt they were in their maternal home, playing together like good, frolicsome little flies, as they were in those olden days.

The following morning, before they set forth on their journey they took an invigorating bath in the dew drops hanging on the top of a stalk of oats. They dried themselves in the sun, dressed their wings carefully and flew off again into space. They were suddenly overtaken by a shower as they passed a castle, in which they quickly took refuge, making their way to the dining-room. The table was spread with beautiful silverware and elegant crystal glasses, which, it appears, is the custom in gentlemen's houses. A servant stood by the table, poured out a glass of wine drank it, and said, "How fortunate my master is, to be able to drink as much of this wine as he desires. It is nectar." He poured out another glass, but hid it quickly behind the sideboard, as the owner of the castle at that moment entered the dining-room.

Muscadine, who was a curious little fly, ogled the glass and exclaimed, "What a rich color that wine has! It must have a delicious flavor. I have a strong desire to taste it."

Muscarello scolded her sharply, saying, "Have you forgotten the advice of our mother, who warned us not to touch anything made by man's hand?"

Muscadine turned up her little nose, raised her wings in a very insolent manner and replied, "Wine is one of Nature's products; it is made from grape juice. Have you forgotten the old Drone who often came to dine with us on Sundays? She was excessively gay, and reeled about the room in a comical manner, embracing me and singing droll songs. When I asked her, 'Well, Mother Drone, what is the cause of your merriment?' she answered, 'I drank two drops of wine, and that has made my heart light.' Yes, brother Muscarello, wine is nothing but the juice of the grape. Man cannot adulterate it, and therefore, in spite of your ill-humor, I shall taste it." Saying this, Muscadine swung herself lightly upon the rim of the glass, dipped her lips into the red liquid, took a long draught, and flew back to her sister, who chided her for being disobedient. Muscarello was very indignant, and ready to strike her; but he remained transfixed when he saw how pale his sister had turned. Her eyes betrayed great suffering, a shiver shook her body and made her wings tremble. With a dying voice she whispered "Mother!" and fell back, her legs stiffened, a last sigh escaped her lips. Muscadine was dead! The wine was adulterated.

Inconsolable at their loss, Muscarello and Muscabella bore the body of the foolish little Muscadine into the park. They dug a grave at the foot of a weeping willow and laid the body of their sister therein, covering it with a leaf to prevent it from being devoured by ravenous wild beasts, such as sparrows and lizards, that are always in search of prey. They then left the last resting place of their dearly beloved sister, who had been so suddenly torn from them. The night was long and dreary, for the sleep of the two little flies was disturbed by bad dreams. Worn out with sobbing, they began to talk

of their little sister Muscadine, recalling to each other her grace and her fascinating, coquettish ways. They portrayed to themselves the poignant grief of their mother, and felt as if there were never two such miserable little flies as they. This sleepless night had greatly fatigued the brother and sister; still, as soon as the sun had risen they continued their journey. Scarcely exchanging a word, they flew listlessly along without casting a glance at the lovely scenery around them, for their hearts were full of grief and their wings heavy. They took their first rest at a farm which stood on the outskirts of a small village. In the yard were a number of men, who, under the supervision of the owner of the farm, were occupied in filling large cans, which were to be sent to the city for distribution. The snow white-foam bubbling over the edge of the cans looked very appetizing and appeared to be perfectly pure. Muscabella, who was very thirsty, could not resist the temptation of tasting it. She said to Muscarello, "I will take a drink, for it is not adulterated like wine. The most depraved of men would not adulterate milk, and the good honest cow is not capable of committing such a crime." So without waiting for Muscarello's answer, she flew away, sipped of the milk, and returned to her brother. She had scarcely reached his side before she exclaimed, "Oh, how cold I am! My heart is like a lump of ice, and my eyes grow dim! Tell mother——" The poor little fly could not finish her sentence. She was dead. The milk was adulterated.

Muscarello was completely crushed by this new sorrow, and asked himself why it was that such fearful calamities should befall him. In his grief he addressed himself to some beetles, who were taking a stroll upon an old stone wall, in the crevices of which they had lived all their lives. He begged them to assist him in preparing a fitting burial for his sister. Notwithstanding the beetles have a forbidding appearance, they have hearts full of sympathy for the distress of others, as they also have known sorrow and are acquainted with grief. Tenderly they carried Muscabella to her grave, and laid her to rest beneath the shadow of an oak tree. The sad ceremony over, Muscarello, with tears in his eyes, thanked the beetles for their assistance, and then returned to the farm, hardly knowing what he did, for his great sorrow had paralyzed his thoughts. He groaned "What can I answer my mother when she asks, 'Where are your sisters, Muscarello?' I would rather vanish from this accursed earth than return home without my sisters. I am tired of life—I long to die."

He was disturbed in his gloomy reveries by the entrance of the farmer, who was in a violent frame of mind. He held a ham in his hand, the best part of which had been gnawed off by rats. Throwing it upon the table, he said to his wife, who was with him, "I will not put up with this any longer. The rats devour everything eatable in the cellar. Go directly to the apothecary for some rat poison, and be sure to have him give you the best he has for sale. Do you understand? Ask for the first quality, for I want to exterminate this fiendish brood once for all."

The farmer's wife started off to do his bidding, while the farmer continued to curse the rats. Muscarello, who had seen and heard all from where he was sitting, thought to himself, "Oh, how tired I am of living!"

Soon after the farmer's wife returned, and put upon the table a package which greatly resembled a cake of soap. "The parcel I brought," she said to her husband, "is a new preparation, and excels anything ever offered to the public. The apothecary confided to me that this rat poison is composed of arsenic, strychnine, prussic acid and other deadly ingredients. He added that it worked so powerfully, and at the same time so rapidly, that even if an elephant tasted of it he would fall dead as if he were struck by lightning."

Muscarello thought: "Now is my chance. I can at last put an end to my miserable existence. Poison that is powerful enough to exterminate rats and kill elephants must be sufficiently potent to get the mastery of a poor little creature like me."

The remembrance of his dear mother did not make him waver in his resolution. He thought also of a little blue fly, who was both young and lovely, and with whom he had passed many a delightful moment behind a Persian curtain. By her side he might have found the joys of a happy home, surrounded by children, whom he would have carefully educated, and who would have been the comfort of his declining years. But he quickly dismissed this dream of bliss, and flew down upon the table, where lay the tempting poison. His despair gave him redoubled strength. He tasted greedily of the cake, and fairly intoxicated himself with the poison. He fluttered back to his old seat near a crack in the chest, into which he preferred that his dead body might drop and thus be hidden from sight, in order to escape the fangs of the voracious spiders that were lying in wait for prey on the ceiling. Now that he had nothing left to hope for in this world, Muscarello awaited with resignation his hour of release. He awaited it with impatience and longing, but death would not come, for—the poison was adulterated.

SPECTRUM ANALYSIS.

WHAT SCIENCE LEARNS WITH THE AID OF THE SPECTROSCOPE.

The solar spectrum, as shown in the rainbow or dew-drop, has always been a familiar object to mankind; but it is only within the last quarter of a century that the marvelous facts written in the rays of light from the sun and stars have been revealed to us. Two German scientists, Bunsen and Kirchhoff, first carefully investigated the phenomena of the spectra of the light proceeding from various luminous bodies; and their labors, with those of others following in their footsteps, have opened up a field of investigation which is apparently limitless. One of the most useful applications of the spectroscopy is to the analysis of different substances. The chemist would be unable to detect with his reagents the presence of small quantities of certain elements; but let him bring the substance into the flame of a lamp, and glance through his spectroscopy, and in a moment their presence or absence is indisputably proved. A ten-thousandth part of a grain of sodium can be easily detected by this means; and simply clapping the hands near the flame will give off enough of this omnipresent element to cause its characteristic yellow line to appear at once in the spectroscopy. We have by this means proved the presence of the rare element lithium in the blood of a person who had been drinking a mineral water containing a trace of its salts. Not only does spectrum analysis show us the presence of familiar elements, but sometimes lines are observed indicating the presence of those previously unknown. Cæsium, rubidium, indium, gallium, thallium and several others were thus discovered, although present in such small quantities that no ordinary reagent could have discovered them. But still more wonderful are the facts made known to us when we turn the spectroscopy toward the celestial bodies. Every ray of light reaching us from the sun bears a message which, with the aid of the spectroscopy, we can read as easily as we can read the words on those minute photographs which are only visible through a microscope. The characters of many ancient inscriptions are still undeciphered; but the story told by the little dark lines crossing the solar spectrum is perfectly familiar to us, although only a few chapters of it have as yet been interpreted. We know that iron, sodium, platinum and many other elements are present in the sun in the state of vapor; and it has been well said that if the word "iron" appeared on the disk of the sun, the proof of its presence would be much less perfect than is that furnished by the lines which it causes to appear in the solar spectrum. The spectrum of fixed stars, comets, nebulae, variable stars, etc., all give us an immense amount of information concerning them. We may judge of the temperature of

the stars, and calculate the speed at which they are moving toward or from the earth. It tells us that comets are, in part at least, gaseous bodies, and distinguishes between those nebulae which are simply distant clusters of separate stars, and those which are masses of glowing glass not yet cooled down to the liquid or solid state. The spectroscopy shows the presence of more or less moisture in the upper air, with the accompanying probability of rain or fair weather. It shows the presence of the constituents of blood in solution, besides many other organic substances; and, finally, the spectrum, of the light from certain rare metals glowing in a vacuum under the influence of an electric current proves their compound nature, although to the coarser chemical and physical tests they appear as simple elements.

CHILDREN'S EYES.

THE DANGER OF UNDULY STRAINING THEM AT SCHOOL.

A mother sends to the *Tribune* the following kindly, wise words: Allow me to say a few words in regard to the children's eyes. Years ago, when the children studied their lessons from their books, we did not hear very much about their eyes giving out. Let us consult our blackboards and see what they can tell us about this world-wide subject. Dear parents and guardians all over this broad land, how many hours of the day are your little children sitting in school staring at a black board upon which are placed by the teacher most of the lessons for the day, many times the lines being so fine and pale they could not be easily read more than half or two-thirds the way across the room, but the children are required to see them all the way across and from the remotest corners. Many of the children when first looking at the board do not see much of anything, but looking very sharp for a few seconds the lines reveal themselves. This, my friend, means strained eyes, and strained eyes mean weakened or diseased optic nerves, possibly no eyes at all—it all depending upon the severity of the strain. Even when the work is quite distinct, for children who have naturally weak eyes the distance many times is so great that the air waves coming between the poor, tired eyes and the board cause the lines to waver and flicker, and especially this is the case when the light is poor and the ventilation bad. Anything put on the board for children to see, whether old or young, should have large proportions and broad, clear lines throughout, so no extra efforts will have to be made to discover it. There is a great difference in eyes; one child will readily see what another could not without the fatal strain. I know whereof I speak, for my own eyes were nearly destroyed through this same practice, and I know others who suffered a like fate.

DISINFECTION OF BOOKS.—The Boston Board of Health have ordered the Public Library card in each family to be stamped, so as to indicate the presence of such a disease there. The library will thereafter decline to allow other books to be taken out on this card until there is no longer danger of contagion. When books are returned from such a locality, they will be disinfected.

CALIFORNIA WINE.—The trade in California wines in the East is steadily growing. There are many people of wealth and taste in this city who buy California wines for home use. Many of these people have been in California and visited its vineyards, and learned the merits of their wines from personal inspection. But the bulk of the California wines is used by the middle-classes, who desire a good wine at reasonable prices, for good California wine compares favorably with foreign wines. Most of it is shipped by way of Cape Horn. The four or five months' trip around the Cape improves the wine, provided it is well fermented. Dry white and red California wine retails in this city at from 85 cents to \$1.50 and higher per gallon, and sweet wines at from \$1.25 and \$3 and higher. Prices are lower now than they have been for years.

WHAT TO DRINK.

SUGGESTIONS AS TO THE BEST AND MOST WHOLESOME BEVERAGES.

If a man must drink, the best thing he can take with his meals is a little claret or light Rhine wine, and if he wants something a little stronger, pure Scotch whiskey is the best thing he can have. The habit of taking a drink early in the morning—we mean by drink a cocktail or stimulant of that kind commonly called as an eye-opener—is one of the worst things that can possibly be done. The effect of alcohol is to inflame the stomach, and it will do this even when diluted with food or anything else, and will do so a great deal more when taken on an empty stomach early in the morning. Men should not maintain their strength throughout the day by taking stimulants. To keep up by the means of alcohol is very bad, and by and by the system will break down entirely under it. The best drink that a man can possibly take is milk. Milk, though, is hardly a drink. One can live longer on it than on any one thing. Milk is more nearly a perfect food than anything; it contains more elements that go to build up the system than any other article. Early in the morning the best drink to take is water. That is, if one must drink; but if he can get along without drinking so much the better. Some drink hot water, some cold and some hot and cold milk. All of these are good in their way. Tea and coffee drunk in moderation will not hurt any body, although they are both stimulants.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

October.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

SAUSAGE MEAT.—Ten pounds fresh meat, minced fine; four tablespoonfuls salt, two tablespoonfuls pepper, five tablespoonfuls sage—If liked, add one tablespoonful of ginger, mix well together; pack tightly in a stone jar and over the top pour melted lard. This will keep well if every time meat is taken out the lard is scraped off and re-melted and poured over again so as to exclude the air.

SWEET PICKLED BEETS.—Boil the beets in a bright kettle until they are tender. Make a syrup of equal parts sugar and vinegar, with a bunch of ground cloves—half a teaspoonful to two quarts syrup, tied in a cloth. When the beets are cold peel and cut lengthwise into slices, pour the hot syrup over them.

RICE BREAD.—One pint of cold boiled rice pounded until smooth, add to it three half pints of wheat flour, a full teaspoonful of salt, three heaping teaspoonfuls of Horsford's Baking Powder, a heaping teaspoonful of powdered sugar, and a tablespoonful of butter; add gradually a pint of water in which the rice was boiled; mix quickly and bake in loaves.

LUNCHEON BREAD.—To one pint buttermilk or sour milk put one small teaspoonful soda and a pinch of salt.

Add enough flour to make it like biscuit dough, cut it into three pieces handling as little as possible; roll each piece out about an inch thick, and bake twenty or thirty minutes in a hot oven. Eat hot. Break instead of cutting.

CREAM TURNIPS.—Pare three or four turnips, slice them and cut into inch square dice, pour over them as little water as will take to boil them nearly tender, adding a little sugar—one tablespoonful to a quart of turnips—and salt. Strain off all the water, add two or three spoonfuls of cream and a beaten egg. Serve.

FRIED SCALLOPS.—Lard the scallops crosswise, with very thin strips of fat bacon, dip them in egg and fine cracker crumbs and fry in boiling lard. Serve at once.

CORNSTARCH CAKES.—Half a pound powdered sugar, half a pound butter, beat to a cream, stir in gradually, beating well, the yolks of six eggs. Whip the whites to a stiff froth, adding to it a small pinch of salt; add to the mixture stirring thoroughly, but lightly; add three ounces flour, and five of cornstarch sifted together; flavor with vanilla. Beat well, pour into small pans, dust with powdered sugar, bake to a delicate brown.

ATOMS.

SOME INCOMPREHENSIBLE CONJECTURES RESPECTING THE ULTIMATE SOURCES OF MATTER.

All substances are made up of tiny particles which cannot be further reduced in size without change of properties and breaking up into their component atoms. These particles or groups of atoms are molecules, and all matter is trembling with their billions of vibrations per second. In solids the molecules are arranged in a certain fixed order, and their vibration is in a limited space; in liquids they move about in all directions, yet none can voluntarily separate themselves from the others; while in gases they are in a state of vibration so violent that they fly about with marvellous rapidity in all directions. Every cubic inch of air contains no less than twenty-one trillions of molecules, and every point on our skin is bombarded by thousands of millions of them every second. Each is so small that 300 would not extend across the width of the smallest line the most powerful microscope shows us. Magnify them one trillion diameters, and each atom is the size of our globe, each molecule is a planetary system, and each air bubble from the fringe around the water in a goblet is a wonderful galaxy. Magnified 10,000 trillion diameters the air bubble would have the dimensions of our entire stellar system, but would contain 50,000 billions of stars instead of the twenty millions our best telescopes can show us. If the atoms had inhabitants, with our sensations quickened and shortened 1,000 billions times to correspond to their diminutiveness, each atom would be a world, each molecule a solar system, and the revolutions of the atoms would give days and years. The atom-dweller would see no more of the air bubble than we see of our stellar universe; for, though the air bubble's molecules average eighty million collisions every second, thousands and tens of thousands of generations of the living beings might exist before a perceptible alteration of their starry firmament could be recorded. Is not our world an atom, our solar system a molecule in a stellar bubble of an unknown and mightier creation?—*Science*.

ALDEN'S MANIFOLD CYCLOPEDIA.

Volume XV. of Alden's Manifold Cyclopaedia includes the titles from Fluctuate to Galvanism. Following the same general lines as its predecessors it is, in some respects, a marked advance upon them in solid worth. We notice with pleasure the large number of practical topics which are treated, and the thoroughness and accuracy with which they have been handled. There is also the same thorough treatment of scientific matters and of the more abstruse subjects which naturally belong to such

work. Other publishers have demonstrated the possibility of making costly and elaborate cyclopedias which are invaluable for professional men, but far above the range of ordinary life. Alden has shown, in the Manifold how to make for a low price a cyclopaedia which shall serve the needs of the great majority of scholars and also be especially prepared to meet the everyday wants of the masses of reading people. The merchant, mechanic, farmer, gardener, and laborer, as well as the student and the college graduate, can here find a vast amount of valuable information. Among the thousands of topics treated in this volume we notice that Food and Drink has nine pages; Force, 12 pages; Forest Laws, 2 pages; Forms of Address, 4 pages; Fruit, 13 pages; Fuel, 6 pages; Fungi, 5 pages; Galvanism, 35 pages. There are also biographies of Rear Admiral Foote; Archibald Forbes; Benjamin Franklin; General John C. Fremont; James A. Froude; Robert Fulton; Galen; Galileo, and many other prominent men. The pronunciation of the words is another prominent and useful feature—especially in the case of proper names. This important work will be sent by mail prepaid for only 60 cents a volume in cloth, or 85 cents in half morocco binding, or, the entire 15 vols. now ready, if ordered at once, are offered prepaid, in cloth binding for \$7, or in half morocco, for \$10. The price is advancing slightly with the issue of each new volume.

THE CIGARETTE ABOMINATION.

VILE EXPEDIENTS USED TO ENCOURAGE A VILE HABIT.

Editor McLaughlin of the *Metropolis* has fallen into line with the *AMERICAN ANALYST* in denouncing the cigarette habit, and in his issue of October 14 he gives the "stinking weed" a counterblast in the vehement style that is one of his amiable characteristics. We quote the following extract from the article in question:

But the fault is not altogether with the boys, nor must they alone be held responsible for the prevalence of the disgusting vice. The manufacturers are even more to blame than the boys. There is a law forbidding the sale of cigarettes to minors; but the law is respected more in the breach than in the observance. No boy with a cent in his pocket encounters any difficulty in exchanging it for the paper rolls of offence. Nor are the lads permitted to forget the hateful thing, however strong may be their resolution to abandon it. On every dead wall and fence the flaming posters in gorgeous colors remind them of the latest brands. In the windows of every tobacco shop they see displayed viciously fascinating pictures advertising the cheap and nasty goods. Broad-sides of the great newspapers are filled with announcements of them. As an additional attraction, every package sold contains a highly colored picture of some famous actress or noted character, presenting, not merely a portrait of female beauty and loveliness—which in itself might not be unattractive—but so draped and postured as to appeal to the basest senses of the budding youth. The enormous expense these cigarette makers incur in advertising their goods, when considered in connection with the extremely low price at which the goods are sold, furnishes the most convincing evidence of their lack of intrinsic value. Take a package of twenty cigarettes, usually retailed for five cents, and estimate the retail and wholesale profits on them; then consider the cost of manufacture—labor, rent, machinery, etc.; and the enormous amounts paid for advertising and for the gift pictures which accompany them, and it will require a skillful mathematician to figure out any margin left for the purchase of tobacco with which to make them. Yet they are all advertised as made of the very best quality of tobacco, which, of course, should cost the highest price, when, in fact, the best is the worst. Is not this a clear give away? Is it not evidence that only refuse tobacco, or the scrapings of the gutters, can be utilized by the manufacturers in filling these alluring but worthless contrivances? Such is the fact, no matter how loudly the maker may boast of the purity and excellence of the tobacco used. Good tobacco could not be used in them, at the prices at which they are supplied, without bankrupting the manufacturer. They are made, as *The Metropolis* has heretofore pointed out, from the half-smoked cigars thrown away by cigar smokers, with an admixture of drugs, principally opium, to destroy the rank flavor and impart an agreeable odor. This shows the profitability of the occupation of the swarms of Italian boys, working under the immediate supervision of the lazy padrones in the early hours of the morning, searching the gutters for discarded cigar stubs.

CRAZE vs. CULTURE.

CHRISTIAN SCIENCE AND MENTAL THERAPEUTICS AT
THE HUB.

One of the facts brought out in the discussion before the legislative committee of the Massachusetts "general court," relative to the passage of a bill restricting the practice of medicine in Massachusetts to only qualified and diplomated practitioners (the bill, by the way, was reported upon adversely by the committee), was that large numbers of respectable and intelligent, indeed "highly cultured" people in Boston and other New England cities consult and employ "Christian scientists" when their health is in any way deranged. This may be true of Boston. In certain other cities of that State, where a few years ago this delusion had many adherents, there is now not a practitioner of the "Eddy School" able to get a living by the exercise of this kind of therapeutics. Some of these practitioners have become itinerants, going about from place to place, and meeting some success in new localities; others have ceased trying to obtain a living from "Christian science," which they now only cultivate to gratify some of their friends. Doubtless, Boston, which has for years been the hot-bed of quackery, will for some time to come cherish Christian science along with clairvoyance and other humbugs. The "intelligent and cultured" often show a sad want of intelligence and culture when it is a matter of choosing their medical practitioners. They are almost certain, however, to call in the well-educated and skillful physician when serious disease presents itself. There is no error but contains some truth, which gives it all its vitality, and "Christian science" has a certain sound basis in the undeniable facts of mental therapeutics. Intense occupation of the mind with some subject of interest will drive away a headache; the love-sick swain will re-

cover his appetite and his sleep if "Chloe" will only relent; the reward of \$10,000 damages has helped put many a victim of "railway spine" on his feet; hysteria and functional paralysis and neuralgia has often proved tributary to hypnotic suggestion, and a severe fright has sometimes cured nervous aphonia. But the Christian scientist, not being content with taking his stand on such facts as these, and affirming the power of mind over bodily states within a certain limited range, prates a great deal of nonsense about the non-existence of matter, the non-reality of disease and pain, self-identification with the Divine reality which permits no imperfection, etc.

PETROLEUM DETERGENT.—Attention has been drawn recently to the cleansing effect of petroleum on soiled clothes. The best way to employ it is to fill an average boiler, say of fourteen gallons, with water, adding half a pound of soft soap, and when all is boiling thoroughly pour in one and a half tablespoonfuls of petroleum. Then put in the clothes and boil them for half an hour before lifting them out and rinsing them in several waters. A little more soap, water and paraffine should be added to make up for loss as successive lots of the clothes are boiled.

BRICKS AND HYGIENE.—Statistics show that people live longer in a brick house than in stone, and that wooden houses are the healthiest. This suggests the idea of using paint on masonry. An authority states that 100 years ago it was fashionable to paint brick buildings white, and many charming structures remain to attest the value of a coat of paint in preserving the masonry, and its pleasant, home-like effect is a foil to the vines and shrubs with which even city houses are now commonly adorned. If it should prove, as might be easily ascertained, that the painted brick houses preserve their inhabitants more effectually from sickness and premature death than the unpainted ones, it would be worth while to revive the ancient fashion, and, with our greater resources in the way of materials and ideas, exterior coloring might become as important an accessory to the architecture of the twentieth century as it was so that of the twelfth or thirteenth.

CHILDREN IN AUTUMN.

The meteorological peculiarities of this season of the year present almost as great a degree of danger to the physical health of children as do those of the midsummer season. Most mothers consider the dangers of the hottest part of the year the greatest of all; but the mortuary statistics demonstrate that the deaths from croup, diphtheria and kindred diseases are at least as numerous as those resulting from dysentery, summer complaint and cholera infantum during the torrid months. The limited epidemics of diphtheria, which occur almost every year, are to be attributed not so much to any peculiar quality of the atmosphere, as many medical men assert, as they are to hygienic errors perpetrated by mothers, who, while of course desiring to protect their offspring against any and all ills, make fatal mistakes in the ordinary care of their young. The cause of many of the troubles affecting children during the early winter is to be laid to ignorance of the general principles of hygienic treatment. Mothers and nurses are apt, in the first place, to bundle up children with too great a warmth of clothing as soon as the first chill of autumn makes its unwelcome appearance. This is a most serious fault, and is, unfortunately, a very common one. Observations made within a week by the writer have unearthed the causes of a number of cases of serious cough, threatening to develop into something still more serious. During a visit to a charming family, it was learned that the loveliest little golden-haired of all was in a bad way with a hacking cough. The rest of the children, four in number, were well, and at the time were amusing themselves in the nursery. A call on them revealed the harrassing fact that a great fire had been built in the open fireplace, and that the temperature in the room was about 80 degrees. The temperature of the air outside at the time was less than 60 degrees, and therefore the most conducive to physical welfare. It is apparent to all who exercise their logical

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. **THE FAMILY CYCLOPEDIA OF USEFUL KNOWLEDGE** is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,
—19 PARK PLACE, NEW YORK.—

functions, that the sudden opening of a window, with a resulting draught of air 20 degrees colder, must be injurious. That was the cause of golden-hair's cough. Children on these autumn days should never be overburdened with clothing when taking their constitutional promenade. Experience has taught adults to adapt the weight and warmth of their clothing to the weather, the resulting garments being top-coats and light fall wraps, respectively. There can be no earthly reason why children should not be attired according to the same rule. To bundle them up in this warm weather is simply criminal. Such "care" exposes them to sudden changes of temperature which no sensitive organism can stand. The diet of the little ones is another serious consideration. It should be confined principally to cereals, boiled, stewed or otherwise prepared. Meats should always be well cooked and cut up. Hash, Hamburg steak, meat stews, fricasees and ragouts are the advisable forms. Stewed fruits are to be recommended before raw ones; but tamarinds, oranges, apples and bananas, in moderate quantity at times, should not be objected to. At this season, children should never be given pineapples, lemons or woody pears, for these act respectively as hyper-acids or mechanical irritants on the digestive organs. The nurture of children should be based upon common sense views of the care of the body, as far as external influences are concerned, and, as well, of the proper treatment of the internal mechanism. The greatest danger lies in an irrational conception of the demands of these two cares. The control of the exterior is comparatively easy, and errors in that direction are inexcusable. But, as far as the physiological mechanism is concerned, more troublesome difficulties have been encountered, and hitherto mistakes made in the care of the internal physical organism have had some excuse. At present, however, every mother or nurse should be considered responsible, for the care of the human body has been brought to a degree of perfection by science, never before equalled. Proper hygienic treatment, based entirely upon the natural logical activity of the mind, is assumed to be an essential. But the digestive organism, which cannot be observed by the eye, must be regulated by rational mediums. The best of these thus far discovered is Ayer's Sarsaparilla, and the results of this preparation are too well known to need special comment. If the other hints given in this article be followed, the use of Ayer's Sarsaparilla will insure the health of the rising generation.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME OF
ON LABEL, AND GET
THE GENUINE

Stewart Hartshorn

HARTSHORN

Fine Table
Wines

From our Celebrated Orleans Vineyard.

Clapd Hamerthy & Co.

Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:
NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

A Century of Talking

Is not worth a Minute's Proof

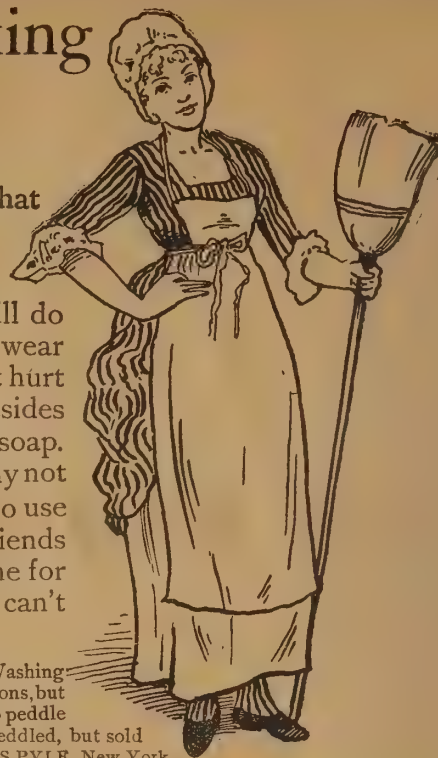
It don't take many minutes to prove that

Pyle's Pearline

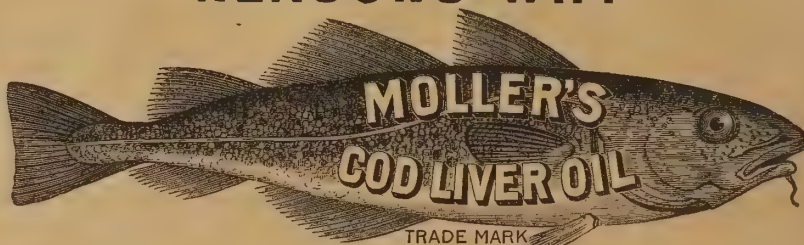
will wash clothes, will clean house—will do it well—will save you time; labor; wear and tear; will reduce drudgery; will not hurt your hands; your clothes or paint, and besides will cost you no more than common bar soap. One honest trial will prove all that. Why not accept the testimony of the millions who use it, as proof of its virtue. Among your friends you'll find those who have used Pearline for years—ask them—they will tell you "can't do without it."

Beware

Pearline is the original Washing Compound—used by millions, but imitated by thousands who peddle their stuff or give worthless prizes. Pearline is never peddled, but sold by all grocers. 151 Manufactured only by JAMES PYLE, New York.



REASONS WHY



Should be preferred to all others:

Because—It is genuine-pure, just as it existed in the hepatic cells of the living fish, not depleted of its natural virtues by any process of refining, nor weakened by being made into an emulsion with an equal quantity of water, glycerine, etc., which latter device makes water bring the price of Oil.

Because—In taste and smell it is not offensive, but instead, sweet and agreeable.

Because—Its administration is always followed by satisfactory results.

Because—It is more easily assimilated than other Oils.

Because—It is more nutritious than other Oils.

Because—Of its perfect digestibility, perfect limpidity.

Because—This perfect Oil costs consumers no more than the poorer qualities abounding in the stores.

Because—It is readily obtainable; all well-stocked Drug Stores have it.

Because—It is unquestionably the purest and best COD-LIVER OIL IN THE WORLD.

W. H. SCHIEFFELIN & CO.,
NEW YORK.

Sole Agents for U. S. and Canada.

RESERVED RESOURCES.—Mother (severely)—"That dress is altogether too low, Lillie. I am surprised at you."

Lillie (turning very red)—"I hope you don't think it immodest, mamma. Helen Alstrip's are ever so much lower."

Mother—"But it is her fifth season and your second. If you exhaust your resources so soon what are you going to do next year?"

THANKS NOT EXPECTED.—Because a begging deaf mute in Dorchester last Saturday kindly said "thank you" at the end of the route, after his heart and his pockets could hold no more, the donors were greatly incensed. Is not politeness always in order?"

BUSINESS NOTES.

FOR NERVOUS DEBILITY

USE HORSFORD'S ACID PHOSPHATE.

Dr. A. M. BILBY, Mitchell, Dak., says: "I have used it in a number of cases of nervous debility with very good results."

HOSPITAL REMEDIES

THE Favorite Prescriptions of the Brightest Medical Minds in the world, as used by them in the Hospitals of London, Paris, Berlin and Vienna.

ONE MEDICINE FOR ONE DISEASE.

No. 1—Cures Catarrh, Hay Fever, Rose Cold, Catarrhal Deafness.

No. 2—Coughs, Colds, Bronchitis, Asthma, Consumption. A Peerless Remedy.

No. 3—Rheumatism, Gout.

No. 4—Liver & Kidneys, Dyspepsia, Indigestion, Constipation, Bright's Disease.

No. 5—Fever and Ague, Dumb Ague, Malaria, Neuralgia.

No. 6—Female Weakness, Irregularities, Whites. A Golden Remedy.

No. 7—A Perfect Tonic, which gives Health, Form and Fullness, Clear Complexion, Good Blood and lots of it.

No. 8—Nervous Debility, Loss of Power, Impotence, an incomparable remedy.

Every bottle guaranteed to cure its special disease FOURABLE and to give permanent relief ALWAYS.

Descriptive Circulars sent free on application. HOSPITAL REMEDY COMPANY, Toronto, Canada.

RELIABLE AGENTS WANTED.

TWELFTH SEASON.

MRS. McELRATH'S**Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams,
Pickles and Mince Meat.**

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circulars, with references and prices, sent on application. Address,

Mrs. SARAH S. McELRATH,
393 Degraw Street, Brooklyn, N. Y.**THE AMERICAN ANALYST.**

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

AMERICAN ANALYST CLUB RATES.

	Regular Price.	Price including American Analyst.		Regular Price.	Price including American Analyst.
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

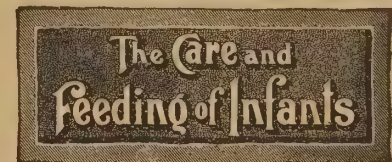


BLAIR'S PILLS
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.
Sure, Prompt and Effective. Oval box 14 pills.
At all druggists, and 224 William St.,
New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

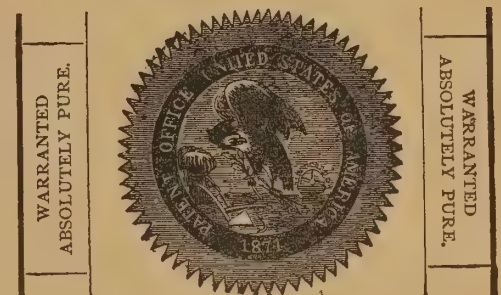
DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

Established in London, 1831.

DEAN'S PATENT**ARDENTER MUSTARD.**

BEST IN THE WORLD.

**Ardenter Mustard Pellets**

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

Subscriptions \$1 per year. Now is the time to subscribe.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

SUBSCRIPTIONS; - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

JOHNSON LOCKE MER. CO.

Shipping & Commission Merchants,
SAN FRANCISCO, CAL.

Agency at
PORTLAND, ORE.

Agency at
LOS ANGELES, CAL.

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins,
Walnuts, Almonds, Dried Grapes, Borax,
Barley, Mustard Seed, Salmon,
Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

Nieder-Selters-Water.

**BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.**

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

❖ PICTURES. ❖

All kinds of small pictures enlarged to life-size.

**FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,**
at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
47 West Twenty-second Street.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,
By MISS M. E. BRADDON.

THE GIRL AT THE GATE,
By WILKIE COLLINS.

A BRIDE'S TRAGEDY,
By MISS MULOCK.

THE RECTOR'S DAUGHTER,
By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,
By MARY CECIL HAY.

GABRIEL'S MARRIAGE,
By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,
By ETTA W. PIERCE.

THE RIGHTFUL HEIR,
By M. T. CALDOR.

THE DOUBLE HOUSE,
By MISS MULOCK.

TWICE SAVED,
By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, *profusely and handsomely illustrated*, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM No. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa, or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS**.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST**.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. F. VANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract. **WILLIAM ROBERTS, M.D., F.R.S.**

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alternatives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-VERBINE.
MALTINE with Potassium Bicarbonate.	MALTO-BURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,
54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauternes is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough, to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 125-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist, 125 West 42nd Street, NEW YORK CITY, N. Y.

P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address **THE RECAMIER MFG. Co., 52 and 54 Park Place, New York City.**

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.

Pure  **LAGER BEER,**

"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALY FOR
HOTELS, CLUBS

AND
PRIVATE FAMILIES
—BY—

Beadleston & Woerz

291 W. 10th St. New York.

Orders by Postal Card 
 promptly attended to.

LEA & PERRINS' SAUCE.



Imparts the most delicious taste and zest to

The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura ROBINSON'S  SURE CURE FOR
RHEUMATISM

And NEURALGIA,
And remedy for diseases arising from an impure state of the blood. An antidote for MALARIA. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



Sura Cura

A CURE

FOR

Sick and Nervous
HEADACHES.



ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

UNITED STATES DEPARTMENT OF AGRICULTURE.
Washington, D. C.

By an analysis of Dr. Price's Cream Baking Powder I find it carefully compounded, and I regard it as the best baking powder in the market in every respect.

PETER COLLIER,

Late Chemist of the United States Department of Agriculture.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

**SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.**

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

**INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,**

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, 1 inchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR BRASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 44.

NEW YORK, THURSDAY, OCTOBER 31, 1889.

WHOLE No. 140

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - - \$1 per year.
Single Copies, - - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

California Industries.....	521
Correspondence.....	522
A Great Sugar Refinery.....	
Dipsomania.....	520
Domestic Dietetics.....	522
Editorials.....	517
Cooking by Lamplight; Wine and Liquor Statistics; A Swindler Checked; The Phonograph; California Wines; An Electric Plant.....	
Left Leggedness.....	520
Nervousness.....	521
New Books.....	520
Oleomargarine.....	518
Pickles, Good and Bad.....	518
Some of the Let Go's.....	519
Where Colors Originate.....	520

COOKING BY LAMPLIGHT.

A phase of social evolution which is beginning at length to receive the attention that its importance challenges is the simplifying of the domestic cooking process. During the past few years, several ladies prominent in the line of culinary education have lectured, generally to large audiences, upon the advantages of one or another of the numerous patent cooking appliances that Yankee ingenuity is incessantly evolving, and the suggestion of advertisement embodied in these lectures has been condoned in consideration of the genuine and practical instruction they conveyed. If anybody has invented a gas or kerosene stove that will perform the cooking for a family with a notable reduction of the cost and inconvenience of the old-fashioned apparatus, it is the public, more than the patentee, that is benefitted by the publication of its merits. It is something novel, however, to see a man mount the rostrum in behalf of cooking reform, as was done on the evening of October 23d, at the meeting of the American Public Health Asso-

ciation, in Brooklyn. The speaker was Mr. Edward Atkinson of Boston the well known economist, whose investigations in the department of food have earned him a world-wide distinction. Mr. Atkinson was assisted in his manipulations by a couple of professional cooks, and waiters in dress suits were on hand. The cooking was done by way of illustration of a paper which was read by Mr. Atkinson before about 500 delegates of the convention. The cooking was done after a process which Mr. Atkinson asserts combines economy and convenience. The only fuel used was kerosene oil contained in a lamp of rather large size. The lamp stood under a square box-shaped object made of wood pulp with the outer edges lined with tin. This is known as the "Aladdin oven," and is one of Mr. Atkinson's patents. Here meats, fish, vegetables and puddings were cooked while the originator of the system was discussing the science of cooking and exhibiting the new process. Afterward the waiters served up the dishes to the audience, who tasted them critically and pronounced them excellent. There was plenty of bread, which had been baked in the "Aladdin oven" during the afternoon. Mr. Atkinson says that eight ordinary loaves of bread can be baked in two hours, while you are reading your evening newspaper or doing your evening sewing, and all by the heat of the lamp with which you see to read or sew. "The true science of cooking," he says, "consists in the regulated and controlled application of heat by which flavors are developed and the work of conversion is accomplished. For this purpose a quantity of fuel is required which is almost absurdly small compared with the quantity commonly used."

WINE AND LIQUOR STATISTICS.

The Chief of the Government Bureau of Statistics in his recent report to the Secretary of the Treasury on the production, consumption, etc., of spirituous and malt liquors and wines, extended his investigations through a series of twenty years in order to compare the relation born by the liquor industries in the United States to those of Great Britain, France, Germany, Denmark, Sweden and Canada. The report embodied many interesting and significant facts, though, owing to insufficient data attainable several points upon which it would have been desirable to be informed were necessarily omitted. Thus it is to be regretted that official statistics were not procurable showing the product and consumption of wine in Germany or of malt liquors in France, or even of the quantity of material consumed in the manufacture of malt liquors in this country. The following are some of the leading characteristics exhibited, so far as relates to the countries mentioned: First—The rapid increase of the consumption of malt liquors in the United States. Second—In the consumption of beer per capita Great Britain stands first, Germany second, the United States third, and Canada fourth. Third—France is the largest consumer of wine per capita. Fourth—Denmark appears to be the largest consumer of spirituous liquors per capita. From a report by the United States Con-

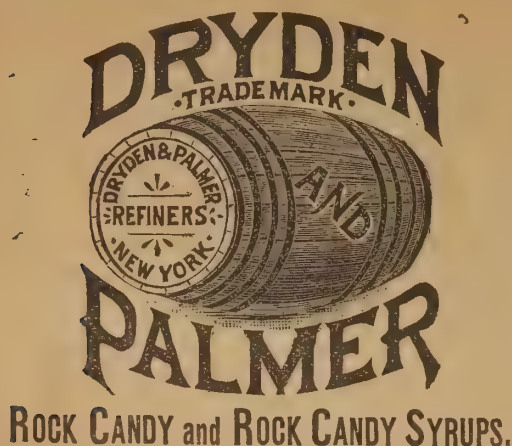
sul at Marseilles, dated February 27, 1889, the production of wine in the principal wine growing countries of the world, vintage of 1888, is given in gallons as follows: Australia, 1,902,024; Austria, 92,459,500; Algeria, 72,072,788; Cape Colony, 4,490,890; France, 795,294,534; Greece, 46,493,920; Hungary, 184,919,000; Italy, 798,242,489; Portugal, 132,085,000; Roumania, 18,418,900; Russia, 92,459,500; Servia, 52,834,000; Spain, 607,591,000; Switzerland, 29,058,700; Turkey and Cyprus, 68,684,200; United States, 32,000,000. It may interest Prohibitionists to know in detail that during the year ending June 30, 1888, there were consumed in the United States distilled spirits as follows, the figures representing proof gallons: Domestic, from fruit, 888,107; other:—Bourbon whiskey, 12,190,013; rye whiskey, 5,148,244; alcohol, 10,487,938; rum, 1,114,544; gin, 803,288; high wines, 1,044,586; pure neutral, etc., 28,289,687; miscellaneous, 14,174,979. Total domestic, 74,291,386. Imported: alcohol, 153,143; brandy, 437,519; cordials, etc., 143,780; other, from grain, 646,107; from other material, 236,408. Total imported, 1,643,966. Total spirits, 75,845,952.

A SWINDLER CHECKED.

The exposure of a contemptible fraud, affecting in some degree the integrity of eastern dinner tables as well as those of the Pacific coast, is related in the following paragraph in the San Francisco *Call* of October 13: An injunction was granted by Judge Sabin, sitting in United States Circuit Court, at the suit of Lea & Perrins against Jacob Klein, doing business under the name of the California and Oregon Cider Company. The cause of action as set up by the plaintiffs is that they are the manufacturers of the Lea & Perrins' Worcestershire Sauce; that the defendants had been buying up their emptied bottles, bearing their imprint and stopper, refilling the bottles with an inferior article, and by putting a label closely resembling the plaintiffs' label on the bottles with the fictitious firm-name of Lee & Perkins as manufacturers, have damaged plaintiffs' business to the amount of \$10,000. David P. Belknap is the attorney for the plaintiffs. This is the first of some twenty suits which Mr. Belknap has been instructed to bring against these imitations, which, owing to their cheapness, have flooded the market, and will now be stopped.

THE PHONOGRAPH.

There is a prevalent impression that Mr. Edison has perfected the phonograph, and brought it to the ultimate practicable state of simplicity and perfection of action necessary for its general adoption. But we are informed by an editorial writer in the *Scientific American* that the instrument has not yet quite attained to that state of perfection. It is true that a number of them are in use, and many interesting experiments have been made. At the Paris exhibition the instruments were shown in operation, and the perfection of the results in



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

recording and delivering speech was marvelous. But in most cases, in order to get really satisfactory results, we believe it needs the employment of an expert to watch, adjust and work the instruments. We are informed the machine has recently been improved so as to dispense with all adjustments, thereby rendering it entirely automatic, and making it practical in the hands of every one. If the phonograph has reached this stage of simplicity and perfection, we predict for it a bright future.

CALIFORNIA WINES.

One of the great obstacles California wines have had to contend with is the ridiculous attitude of some of those who pretend to deal only in pure wines, and yet issue circulars and advertisements which show at a glance that they are doing nothing of the kind. Among these is one Charles Stern of Chicago, and New York, who not long ago urged the California Viticultural Commission to take strong measures against wine adulterations, and especially against those who would sell California wines under French and German labels. In a circular lately issued by this individual he offers California wines under the names of Hochheimer, Niersteiner, Deidesheimer, Laubenheimer and Hock, also as St. Julien, Chateau Margaux, St. Emilion, St. Estephe and Zinfandel. Consistency is a jewel.

AN ELECTRIC PLANT.

There has been discovered in the forests of India a strange plant, which possesses to a very high degree astonishing magnetic power. The hand which breaks a leaf from it receives immediately a shock equal to that which is produced by the conductor of an induction coil. At a distance of six metres a magnetic needle is affected by it, and it will be quite deranged if brought near. The energy of this singular influence varies with the hours of the day. All powerful about 2 o'clock in the afternoon, it is absolutely annulled during the night. At times of storm its intensity augments to striking proportions. During rain the plant seems to succumb, and bends its head during a thunder shower. It remains there without force of virtue, even if one should shelter it with an umbrella. No shock is felt at that time in breaking the leaves, and the needle is unaffected by it. One never by any chance sees a bird or insect alight on the electric plant. An instinct seems to warn them that they would find their sudden death.

Subscriptions \$1 per year. Now is the time to subscribe.

OLEOMARGARINE.

OPPOSITION TO THAT PRODUCT PURELY MERCENARY AND SELFISH.

The lard and the oleomargarine questions, as they have been presented to the legislative bodies of this country, are worthy only of slight consideration from a sanitary stand-point. So much activity in the matter as has been exhibited around and within legislative halls is not from any demand for better or different products, but solely an effort of producers and dealers to secure a more advantageous position in the markets of the world. The struggle is and has been almost entirely a monetary one. The placing of a tax by the national government on oleomargarine was at the instance of the agricultural interests of the country; and for the same reason the Legislature of New Hampshire enacted a law requiring this article to be colored pink before it could be legally sold in the state. No evidence was submitted to show that it was unsuitable for food, and the color act was passed to prohibit its sale, which could not be done by direct legislation. It was simply a method of excluding from the state a product likely to be used to an extent that might slightly lower the price of butter, and perhaps be fraudulently substituted for it. Since oleomargarine is known to be a healthful article of food—infinitely better than poor butter—sanitary authorities have taken no part in the oleomargarine question. The same is substantially true regarding the lard question, although some public good may come from a careful examination of the subject from the stand-point of health. In the first place, it may with propriety be questioned whether the fat of the hog is, or ever has been, a healthful article of food. But waiving that point for the present, we must admit that there are some degrees of difference in the various brands of lard that are found in our markets, which merit the consideration of the sanitarian. The attempt on the part of certain packers to secure legislation solely in the interests of the hog products as against any healthful substitute should be understood by health authorities, that the latter may be prepared to act strictly in accordance with facts, and not unwittingly endorse an error. As we stated in the last issue of the *Sanitary Volunteer*, the only substitutes for lard, offered for sale, are beef fat and cotton-seed oil, both of which we are safe in saying are healthful food products. Thus the producers of beef and the manufacturers of cotton-seed oil have an equal right in the struggle for trade with the producers of lard; and if the sanitarian is called to testify, it can only be in behalf of the very products which the producers of "pure lard" are declaiming against. Oleomargarine, beef fat, and cotton-seed oil are all healthful articles of food, and from a health stand-point we have no ground upon which to ask their exclusion from the public markets. The trade aspect of the matter is one thing, the hygienic quite another.—*N. H. Sanitary Volunteer, Oct.*

PICKLES, GOOD AND BAD.

HOW PICKLES AND CATSUPS ARE ADULTERATED AND POISONED.

Dr. C. Q. Jackson, of Pittsburg, has recently analyzed a number of samples of pickles and catsups, and we condense the following from his published report on the subject:

Samples of six brands of tomato catsup were bought from retail dealers in this city, and subjected to careful microscopical and chemical analyses, with the following results: Salicylic acid was found in five samples; coloring matters were found in five samples; fungi or molds found in four samples; arsenic (traces) found in one sample; sulphuric acid found in one sample. With regard to the salicylic acid found, it may be stated that it is almost universally used by tomato catsup manufacturers for the purpose of cheaply preserving the catsup from

fermentation—in other words, to make it "keep." Almost every housewife who annually puts up a number of bottles of excellent tomato catsup is much annoyed by the certain tendency it has to ferment either before the bottle is opened for use or immediately after. The manufacturer overcomes the difficulty by adding salicylic acid to the preparation. He also uses it to preserve the large quantities of tomatoes which he buys when they are cheapest. The salicylic acid enables him to make up a sort of mash or "pulp" that will keep until such a time as he may wish to prepare and bottle it. The catsup consumer will want to know if salicylic acid is injurious. It is certainly, when partaken of in anything more than very small doses not very frequently repeated. The person who takes a teaspoonful of catsup containing sufficient salicylic acid to preserve it, not oftener than once a week, will not, perhaps, do himself any great injury; but the man who is in the habit of consuming a tablespoonful daily of such a catsup will inevitably injure his stomach. The long-continued administration of salicylic acid or its salts causes emaciation, or wasting of the tissues, and large quantities may cause death. The coloring matters found in five samples were cochineal, cochineal lake, aniline red and some vegetable colors. Aniline red, if pure, is not in any way deleterious to health when swallowed; but, as a practical matter of fact, aniline colors often contain arsenic, and for this reason their use to color food stuffs is dangerous. Cochineal is in no way deleterious, and is not liable to contain injurious impurities. But it is wrong in principle to color food stuffs at all. If an article is pure, it ought to sell without any dye. How any one can imagine that tomatoes could give such a color to catsup, as is possessed by this article, it is difficult to conceive. The presence of fungi or molds indicates that the tomatoes had begun to ferment and grow moldy before the salicylic acid was added, which latter would of course stop the growth of the fungus. With regard to the effect of the ingestion of this dead mould, it is only necessary to state that a number of years ago an experimenter found that when rabbits were fed on mouldy bread their ears sloughed off, deep ulcerations made their appearance, and finally death resulted. The traces of arsenic detected in one sample were probably derived from the aniline dye used to color the catsup. While the quantity found was exceedingly small, yet it must be remembered that arsenic is not to be trifled with, and that, like all metals, it accumulates in the system, and even in small doses, if kept up, may eventually produce dangerous symptoms. Of course, the presence of arsenic in the above-mentioned case was entirely unknown to the maker of the catsup; he did not know that aniline colors often contain arsenic. The sulphuric acid found was probably added to give an extra tartness to the catsup, without the use of vinegar, which latter was entirely absent. Sulphuric acid of itself is not injurious in small quantities and well diluted, but it, too, often contains arsenic. With regard to the physiological effect of catsup and pickles, it must be said that when pure they are not of any value as foods, but as relishes to add zest to the appetite and thus indirectly favor digestion, and also directly by the stimulating effect of the pepper they contain on the stomachal secretory apparatus, they are on the whole quite beneficial. Of course, the eating of pickles between meals, or in large amounts at any time, is in most cases a very bad practice; and a craving for this kind of thing is often the result of over-indulgence in candies and alcoholic stimulants. Ten samples of domestic and foreign pickles were examined, with the result of finding impurities and adulteration in 32 per cent. This may seem rather startling, and it will be queried whether cucumber pickles can be made out of anything other than cucumbers. It has been stated on good authority that certain vegetable marrows have been fashioned into clever imitations of cucumber pickles; and turnips, too, have been made to masquerade as pickles so successfully that it is said neither epicure nor botanist could detect the fraud. However, none of these spurious pickles were found in

this series of analyses. The adulterations referred to were chiefly in the vinegar, while the impurities were in both vinegar and pickles. Pure cider vinegar is, or ought to be, a 4 or 5 per cent. solution of acetic acid in water, with various extractive matters. There are many different varieties of vinegar, according to the source; thus in commerce we have cider, wine, sugar, malt, wood and beet vinegars. Of these the cider and wine products, or what is sold as such, are the most commonly used. Each kind of vinegar, if pure, has a decided color, flavor and aroma, derived from the vegetable from which it is prepared. At the examination of ten samples of pickles from the general market, including an analysis of the vinegar containing them, yielded the following results: Copper present in two samples. Sulphuric acid (oil of vitriol) present in seven samples. Lead present in one sample. Iron present in two samples. Zinc present in one sample. The copper found in two samples was present in considerable amount, and had been added for the sole purpose of dyeing the pickles a bluish green color. A few years ago it was a very general thing to color all kinds of pickles with copper; an examination of the pickle shelves of any retail grocery would show rows of jars containing the cucumbers, etc., of the most unappetizing color imaginable. But within the last few years quite a reform has been established in this respect, and the public are being educated up to the fact that pickles of a vivid green color invariably contain copper, and in some instances when the hue is quite natural a slight amount of copper is present, having been used to recolor cucumbers which have been bleached by too long immersion in brine, or by some other cause. It is still a common practice with many housewives to "green" their pickles by allowing them, with their vinegar, to stand in brass or copper kettles for 24 hours or more; and it is also advised in some cook books to place a few pennies in the pot while cooking the pickles. How it is that any one should be so ignorant as to do these things it is difficult to conceive, yet it is done. Whether the copper found in the two instances mentioned came from the vessels or was added in the form of sulphate of copper (bluestone), makes but little difference; it existed in the pickles as sulphate and acetate of copper, both of which are highly poisonous. Many cases, some fatal, of poisoning from eating pickles colored with copper have been reported. The oil of vitriol found in seven samples is evidently a very common sophistication. Its cost is so little, and its strength is so great, that the temptation to use it as an adulterant of vinegar is powerful. In addition to adding tartness to a weak vinegar, it increases the antiseptic or preserving power, and for this reason the admixture of a small amount (1 part to 1,000 parts) is permitted by the English "food adulteration act." But even this is unnecessary, as shown by the fact that where the proportion of the acetic acid and other ingredients are what they should be, no vitriol nor anything else is required to give it preserving power. The amount found in the samples was, in all but one instance, very much greater in amount than allowed by the English act, and in all cases where present there was a notable deficiency of acetic acid, the normal sour ingredient of vinegar. In addition to its own deleterious effects, commercial sulphuric acid very often contains arsenic. The lead, iron and zinc found were present as a result of the action of the acids on these metals, with which they had come in contact, soluble salt of the metals being produced. All these substances are injurious, though this statement may seem strange to those who would think iron an exception on account of its known tonic properties; but it must be remembered that iron is only a tonic when given in small doses and not too long continued. If its use is kept up it will eventually impoverish the blood. Coming to the remedy for this state of things, it may be stated that all pickles containing sulphuric acid and copper should be rejected. You may detect sulphuric acid in vinegar and pickles in this way: Place a few drops of the vinegar on a small piece of granulated

white cane sugar in a saucer; then set the saucer over the top of a tea kettle or other vessel in which water is kept boiling for some time. This will evaporate the water and acetic acid of the vinegar, and then if sulphuric acid is present it will become concentrated and char the sugar. This charring of the sugar is a certain and simple test for the presence of any important quantities of sulphuric acid. Copper is usually indicated by the bright green color of the pickles. Chemically, it may be discovered by simply immersing a clean polished knife blade into the vinegar. If a salt of copper is present even in small quantities it will be deposited in the form of metallic copper on the knife blade. Catsup: In the first place avoid a highly colored article, for the chances are that much coloring matter has been added to disguise the dark color of half-ripened or rotten tomatoes. Again, don't buy a low-priced article. When you see an array of catsup bottles in a window with a price card on them, showing they are being sold at half the first grade price, don't buy that catsup; it is not fit to go into a human stomach. The writer has known of a bargain hunter who walked four squares out of her way to get a catsup that was sold five cents cheaper than better grades. Examination showed that catsup to be filthy; it was a network of moldy fibre. Considering how long a bottle of catsup will last, five cents is a very small saving to the purchaser, yet that much difference in price means a great deal to the manufacturer, consequently he cannot afford to put as good tomatoes in it nor to make it up so carefully as the better quality, so that this grade contains most of the rotten tomatoes, the sweepings, etc., all colored up nice and red with rosaniline. Whose fault is it that this kind of preparation is on the market—the manufacturers'? Not exactly. It is the fault of the bargain hunter, who wants to get something for nothing—the bargain hunter who holds a 5-cent piece so close to her eye that she cannot see the dollar behind it.

SOME OF THE LET GO'S.

PETTY POSTPONEMENTS OF DAILY LIFE AND LIVING.

It is rather strange, when you come to think of it, how many little things are "let go" in the house, that really fret the inmates and add friction to the household machinery, which should run smoothly. Most of these "let-go's" are in the kitchen. I might philosophize about that fact, but I will not, just now. A dull vegetable knife is one of these. The kitchen which contains a sharp one is the exception, yet it is very exasperating to peel potatoes or apples; cut up beans, or slice turnips, with a knife as dull as a "hoe." In the first place one begrudges the money for a fine steel knife "just to pare potatoes with," never stopping to think that the better the knife the cheaper it is for this sort of work. A sharp knife will pare thinner and waste less than a dull one, and will last longer. A good, small whet stone should accompany it, with instructions to use it, and not the stove pipe, stove edge or sole of the cook's shoe. There is an old saying, that one of the few questions the devil cannot answer is, "What is a woman's whet stone?" Another annoyance is leaking tins of various kinds, notably, quart measures, dippers, dripping-pans and sauce-pans. Bits of rag drawn through the tiny holes, or flour-paste rubbed on the bottom to form a patch are common devices for getting along with these let-go tins, instead of carrying them to the nearest tin shop some morning and getting them back whole and strong in the afternoon for a very small outlay of time and money. There is for sale, and I doubt not it is quite commonly used, a certain kind of solder that the dealers claim can easily be used at home. I think I bought some once, but was not very successful in using it, probably from lack of skill. It in no way lessened my conviction that tins should not be allowed to continue leaky, when time or service has made them so. A clothes wringer that will not wring, is another annoyance. Perhaps one of the rollers will

not turn. We oil the gearing, and fuss with it week after week, on washday, and forget it the other days, all the time vaguely hoping it is only a "conniption fit" and the matter will "right itself," if only we wait long enough. It does not "right itself," and so the annoyance continues, the clothes are half-wrung, or wrung by hand, when it would be so easy to drop a postal to the man who repairs wringers, and then have this cease to be a "let-go." Dull scissors—who does not know them? Day after day, some people "saw away" with such a pair, working their jaws meanwhile, and getting a "pain in their tempers," all because this is one of the "let-go's" that has grown to be chronic. Isn't it queer? Why is it so? I only know it is, and that I rarely have a friend who visits me and uses my scissors, fail to say, "Why, how nice and sharp your scissors are!" Also, I never go anywhere, taking my work, without being very sure my scissors are with it, because I know what I will meet, nine times out of ten, if I borrow scissors. Another "let-go" has a connection with tidies. Now, tidies are very nice things, and very saving to the furniture, if they are properly made and adjusted; but how few are. Most of them are "everlastingly falling off," and all because we fail to sew on little tapes for tying, or little tapes for pinning underneath. We mean to, each of the fifty times we pick them up and lay them on the sofa or chair; but somehow we let it go, and fret ourselves and others by so doing. The weekly repairing of garments is almost a religious duty in some few homes; but in how many are the little rents and rips, the lost buttons and hooks, the broken button-holes, and worn edges, and the tiny holes and thin places in hoisery, let go from time to time until nothing remains to be done but throw aside the garments. "The stitch in time saves nine" remark, may be trite, but it is just as good as ever, and when I find a home where mending is one of the "let-go's" I feel very sure there is a sad lack of thrift, and so of certain moral qualities that go with it.—*Good Housekeeping.*

INCOMBUSTIBLE CURTAINS.—There are many substances which have the property of rendering the fabrics to which they are applied incombustible, but they usually spoil them, either by changing the color or stiffening them to such a degree that they cannot be used. An easy and safe way of protecting curtains and mosquito nets against fire is said to be by steeping them in a solution of phosphate of ammonia, obtained by mixing half a litre of water (one pint) with 100 grammes (about three ounces) of phosphate. In this way the color and texture remain unaltered.

ARTIFICIAL COFFEE.—The Prussian Minister of Industry has published an account from which it seems that the artificial coffee bean recently discovered on sale consists principally of lupines, and contains about half a per cent. of caffeine, derived from a slight proportion of kola nuts. The husks contain a tannin and some resinous matter.

A CHEMICAL COMPLEXION.—A Miss Chauncey, of Columbia, Ohio, has had a fright that will doubtless teach her a lesson. She used for her complexion a mixture of arsenic and nitrate of silver. Then she went to the White Sulphur Springs, and took the baths. The sulphur decomposed the silver salts in her skin and turned her so black that she has gone into retirement, and will not be seen again for a year.

THE GRAND PRIX.—The Grand Prix of the Paris Exhibition was awarded to the Margaux Souvenir from the Cresta Blanca Vineyards, Livermore Valley, of which Charles A. Wetmore, the President of the California Viticultural Commission, is the proprietor. It is a great and deserved distinction.

LONDON'S ENORMOUS MAGNITUDE.—London is believed to be the largest city in the world. In 1881 that portion of it included within the registration area had 3,814,571 inhabitants, occupying 75,362 acres. "Greater London," as the entire London police district is called, had 4,764,312 inhabitants, occupying 687 square miles. At present "Registration London" alone has hardly less than 4,250,000 souls, and "Greater London," or the whole city, has probably over 5,260,000.

NEW BOOKS.

SOME RECENT PERIODICALS.

OLD NEW YORK. A Journal relating to the History and Antiquities of New York City. W. W. Pasko, Editor, 19 Park Place, New York. Nos. 1 and 2. August and September, 1889.

In our issue of September 12 we referred at some length to a new monthly periodical under the above name, the purpose of which is to place within available reach of the public the memorable facts relating to this city's earlier history, hitherto stored away in archives difficult of popular access, and otherwise to preserve from oblivion the antiquities of Manhattan Island. The second number of the new venture has reached us, and affords a further development of the editor's intentions. We can, probably, best impart an idea of the scope of the publication and the method pursued in the selection of its material by referring in detail to the contents of these first two issues. "Notes in the History of Printing in New York" is a historical summary of the development of the local press from the time when in 1693 the provincial authorities determined to establish a printing press, in imitation of the earlier example of Massachusetts and Pennsylvania. The circumstances attending the arrival of William Bradford in Philadelphia from England in company with William Penn in 1682, and his subsequent vicissitudes, are treated at length, the portion of the narrative contained in the second number carrying the subject down to only 1686, several years prior to its direct relation to New York. These papers, written by the editor, Mr. Pasko, bear the marks of painstaking accuracy and extended research, and when completed they will constitute in themselves a valuable contribution to the history of this city. Other continued papers represented in both the numbers are the "Diary of Dr. Alexander Anderson," the father of American wood engraving; "The Claims of Nicholas Jones," a Bloomingdale farmer, whose property was devastated by the British and Hessian troops in 1776, and who strove in vain after the war to obtain indemnity for the damage he had sustained, his claim gradually increasing in amount as time passed on. A paper whose utility will suggest itself is an index to the illustrations in Valentine's Manual, here for the first time arranged alphabetically. Besides the foregoing, there are a variety of interesting complete sketches, including "The Introduction of Methodism," "Extracts from Early Newspapers," "Theatres in 1825 and 1826," "Supreme Court Attorneys in 1789," "Gleanings from the Surrogate's Office," and several others of similar character. From all of which it is apparent that in "Old New York" we shall have, as the work progresses, a mass of local information, curious and useful, nowhere else procurable in such convenient shape, and embodying historical features which the other excellent antiquarian magazines of the period, by reason of their comprehensive scope and their generality, do not feel constrained to treat in such detailed manner.

Since writing the above, we have received the third number of *Old New York*, being the October issue. The serial articles above referred to are continued, and among the noteworthy subjects otherwise discussed are "The City in 1805," "Rapelje's Boyhood," and an extensive variety of valuable notes, biographical and historical. The work develops increasing interest thus far with each successive stage of its progress.

ALDEN'S MANIFOLD CYCLOPEDIA. Vol. 16, Gal. to Gog. New York: J. B. Alden.

Splendid speed recently marks the progress of Alden's great popular Manifold Cyclopaedia. The sixteenth volume extends from Galvanized Iron to Gog and Magog. This odd beginning and ending illustrates the magnificent scope of the work, taking in as it does the very

latest discoveries of science and the remotest traditions of antiquity, and all between, including an unabridged dictionary of language as well as a cyclopedia of universal knowledge. The small handy volumes, contrasting so remarkably with the usual unwieldy quarto or octavo volumes of other cyclopedias, the large handsome type, the numerous illustrations, the excellent printing and the neat, strong binding, are features which everyone can appreciate; and not less will the majority of readers appreciate the wonderfully low price.

THE NATIONAL MAGAZINE. A Literary and Educational Monthly, devoted to Correspondence Teaching, and University Extension. Vol. 1, No. 1. Chicago. October, 1889.

This new enterprise is designed to serve as the organ of an institution modelled on the plan of the London University, and designated the National University. Much of the space of the initial number is devoted to an announcement of the university scheme, whose basis appears to be correspondence teaching, a method of imparting instruction which is strongly indorsed by high authorities. The faculty in the catalogue before us comprises thirty-five non-resident professors representing, among others, such institutions as the University of Virginia, Tulane, Boston, Madison and Lehigh Universities, who agree to teach pupils at home by correspondence and grant them the usual degrees on examination. The idea seems a good one for persons who cannot attend other colleges. Other articles are those, entitled, "Correspondence Teaching; Its Advantages," by Rev. J. C. Quinn, A. M., Ph. D.; "Hints on Collecting and Preserving Specimens of Natural History," by Prof. G. H. French, A. M.; "Lectures on English Literature," "The Reading Circle," "Literary Notes," etc.

GERMANIA. A Fortnightly Journal for the Study of the German Language and Literature.

The growing importance of an acquaintance with the German language in this country has given birth to numerous systems designed to facilitate its acquirement. The present one seems to be admirably adapted to the purpose, as its lessons are prepared to meet the varying requirements of the beginner, the intermediate and the advanced student. In addition to the elementary features, each number contains poetical selections and a regular contribution of two or more chapters of a serial novel from the pen of some prominent writer. A person wishing to teach himself to read and possibly to speak German will find this an agreeable method for achieving that end.

SANTA CLAUS, ALL THE YEAR AROUND.

This is the title of a new juvenile magazine published weekly in Philadelphia, at \$2 per annum. The first number appeared October 5th. The new venture gives promise of a brilliant future. It is printed on excellent paper, handsomely illustrated; its contributors are well known in that path of literature, and the opening issues bear indications of enterprise and tact on the part of the management which if sustained will doubtless insure success.

WHERE COLORS ORIGINATE.

THE SOURCES OF SOME OF THE MOST BRILLIANT COLORS.

The *American Druggist* has formulated a list of the choicest colors used in the arts as follows: The cochineal insects furnish a great many of the very fine colors. Among them are the gorgeous carmine, the crimson, scarlet carmine, and purple lakes. The cuttlefish gives the sepia. It is the inky fluid which the fish discharges in order to render the water opaque when attacked. Indian yellow comes from the camel. Ivory chips produce the ivory black and bone black. The exquisite Prussian blue is made by fusing horses' hoofs

and other refuse animal matter with impure potassium carbonate. This color was discovered accidentally. Various lakes are derived from roots, barks, and gums. Blue black comes from the charcoal of the vine stalk. Lamp black is soot from certain resinous substances. Turkey red is mud from the madder plant, which grows in Hindostan. The yellow sap of a tree of Siam produces gamboge; the natives catch the sap in cocoanut shells. Raw sienna is the natural earth from the neighborhood of Sienna, Italy. Raw umber is also an earth found near Umbria and burnt. India ink is made from burnt camphor. The Chinese are the only manufacturers of this ink, and they will not reveal the secret of its manufacture. Mastic is made from the gum of the mastic tree, which grows in the Grecian Archipelago. Bister is the soot of wood ashes. Very little real ultramarine is found in the market. It is obtained from the precious lapis lazuli, and commands a fabulous price. Chinese white is zinc, scarlet is iodide of mercury, and native vermilion is from the quicksilver ore called cinnabar.

DIPSOMANIA.

THE MODERN MEDICAL THEORY OF THIRST-MADNESS.

The periodical desire for strong drink which sometimes besets individuals, otherwise moral and exemplary, is a species of paroxysmal mania beyond the control of the patient. It is quite certain that there are thousands of cases of remittent drunkenness, which presents the specific symptoms of disease. The periodical drunkard is not an habitual dram drinker. But at particular times he appears to be attacked with a thirst-madness which deprives him of the power of volition, and hurries him into the most terrible excess. During the interval between the paroxysms, he may be a perfectly sober man. For many weeks, or even months, he may have steadily refused to taste a drop of liquor; may, indeed, have felt no inclination for it, but on the contrary regarded it with disgust. And yet, when the fit comes on, the raging thirst for alcohol utterly paralyzes his conscience and his will. A man in this condition is a monomaniac, and should be treated as one. If put under proper restraint at the commencement of this *furor*, the dipsomaniac, in nine cases out of ten, might be tided over his difficulty in the course of a week, and a perseverance in the course at the recurrence of the hallucination would probably eventuate in a complete cure. It is not easy to persuade the world that all drunkenness is not voluntary. The law does not recognize dipsomania. It treats all inebriates alike. This seems to be unjust, although it is hard to say where the line should be drawn between free-will excess and that which precedes from an uncontrollable mania.—*Munford's Magazine*.

LEFT-LEGGEDNESS.

MAN, THE RIGHT-HANDED AND LEFT-LEGGED ANIMAL.

A paper on "Left-leggedness" was read recently before the British Association by Dr. W. K. Sibley, who said that Professor Ball in "Le Dualisme Cerebral" speaks of man as a right-handed animal. Being right-handed, it is popularly assumed that he is also right-legged, but this does not appear to be the case. Standing working with the right hand, there is a tendency to use the left leg for balance. Many people find less exertion in going round circles to the right than in circles to the left. Race paths are nearly always made for running in circles to the right. So the majority of movements are more readily performed to the right, as dancing, running, etc. The rule in walking is to keep to the right, and this appears to be almost universal. It is more natural to bear to the right. Of a large number of people from the better educated classes asked about the existence of the rule, only 67 per cent. males and 53 per cent. females were aware of the rule. The large majority obey it unconsciously in walking. Crowds tend

to bear to the right. The left leg being the stronger, it is more readily brought into action. Hence troops start off with the left foot. It is the foot which is placed into the stirrup of the saddle or step of bicycle in mounting. So the left is the foot which a man takes off from in jumping. In the experiments of Mr. G. H. Darwin, blindfolding boys and telling them to walk straight, the right-handed one diverged to the right, and *vice versa*. From measurements of Dr. Garson of the skeletons of the two legs, in 54.3 per cent. the left was the longer, and 35.8 the right. For measurements of the feet, the author collected the drawings and measurements of 200 pairs, with the result that in 44 per cent. the left was longer, in 21.5 per cent. the right, and in 34.5 per cent, they were the same size. Measurement at the first joint gave 56 per cent. left larger, and at the instep 42.5 per cent. From the table of the figures it is observed that the left foot is more frequently the larger in the male than female sex, and the percentage of feet of the same size is greater in the female. The percentage of the right larger than the left is very constant, whereas the numbers of the left larger and those in which both feet were the same size are much more variable. Man, being naturally or artificially right-handed and left-legged, tends unconsciously to bear to the right; lower animals, on the other hand, appear nearly always to circle to the left.

CALIFORNIA INDUSTRIES.

THE REMARKABLE PRODUCING CAPACITIES OF THE GOLDEN STATE.

California is a rich State covering a great area and possessing within its limits varied climates and soils. It is therefore not to be wondered at that its products should be so varied and enormous. Let us give a few figures, which, though they may not furnish as clear an idea to the general reader, will furnish a text for further details. The Santa Clara Valley last season supplied of prunes alone fifteen millions pounds or 750 carloads. To put the matter in dollars and cents, California last year produced \$750,000 worth of honey, \$6,500,000 worth of peaches and apricots, \$4,000,000 in canned fruits, \$6,500,000 in dried fruits, \$3,500,000 of raisins, the same sum in oranges, \$50,000,000 of wheat, \$10,000,000 of lumber, \$35,000,000 of cattle, \$20,000,000 gold and silver. Her dairy products were worth \$7,500,000. The salmon off the Pacific coast shipped from San Francisco were worth \$5,000,000; \$10,000,000 in leather was produced. We have not enumerated figs nor olive oil which industries are both in their infancy yet. Of the latter commodity alone Elwood Cooper of Santa Barbara produced 50,000 bottles the product of 6,000 trees. The tenderest walnuts are grown here, and they are acknowledged as superior to the English walnut. About forty carloads of almonds were shipped. Lima beans are also rapidly becoming one of the staple shipping products. The dried fruits shipped from California during the year 1888 may be subsumed thus: Apricots, 3,200,000 lbs.; apples, 550,000 lbs.; pears, 150,000 lbs.; prunes, 8,050,000 lbs.; plums, 360,000 lbs.; Nectarines, 340,000 lbs.; figs, 175,000 lbs.; grapes, 2,340,000 lbs.; peaches, 8,600,000 lbs.; or a total of 23,765,000 lbs. There were raised in the year 1888, 950,000 boxes of 20 lbs. each of raisins, and 1,527,000 cases of fruit and vegetables, 20 cans each, were packed during the year, 18,000,000 gallons of wine and 600,000 gallons of brandy were produced in the same time.

(To be continued.)

THE FANGED ADDER.—Here's the liquor problem in a true form: Twenty-five snakes running through the streets—that's free whiskey. Twenty-five snakes gathered into a box in which twenty-five holes are made by authority of the court—that's low license. Ten of the holes are closed and the snakes all get through the other fifteen—that is high license. Drive all the snakes over to the next village—that is local option. Kill all the snakes—that is prohibition.—*The National Issue.*

NERVOUSNESS.

RELAXATION ITS CURE AND NOT PRETENDED BRAIN FOODS.

According to Dr. Allen McLane Hamilton, of this city, "Nervousness is the great brain trouble in this country. It is caused chiefly by the continued strain of business. Americans take too little time to think about their health, and to think especially about their brain. All the time they are thinking of business; how to get on in the world, and how to make a fortune. Many of them would work twenty-three hours out of the twenty-four if they possibly could, and would then complain that they hadn't time to attend to their business properly. This continued strain on the brain is also the cause of so much insomnia that is prevalent. People who live in foreign countries do not have anything like the amount of brain trouble that those who live in this country have. They give themselves more rest than we take here, they have more holidays, more times like the recent Centennial time when all thoughts of business are put on one side and the whole community give themselves up entirely to rest and pleasure. I think those three days' holiday in this city did those who availed themselves of the holiday more good than they will ever be able to know of. They may have got tired out physically, but it was a great rest for their brains. During the time of the festivities their minds were entirely removed from business thoughts and troubles. Another cause of the nervousness of Americans is that they keep their brains working in too narrow a channel. They don't seem to develop it enough. They keep working along in the same groove all the time; of course, I am speaking of the majority. The man of business, the merchant or the broker studies chiefly the market in which most of their transactions occur, and lets other subjects go by. Children's minds are not developed properly in my estimation. They want to have a wide range of study, and they want to have that study made as easy as possible for them. Their brains are not as strong as those of an adult. They must be trained carefully, and their studies should be made just as light as possible. Another great mistake that Americans make is in their diet. They take as adults too much of a vegetable and a farinaceous diet, drink too much beer and eat too many sweets. Children should have more farinaceous food, and adults should eat more meat and take more of an animal diet. Meat produces hysteria when eaten by young girls, and when taken by young boys is likely to produce convulsions. Insomnia and other nervous diseases are due to insufficient exercise, misuse of the brain and abuse of food; such as eating hot bread and hot cakes for breakfast. Adults want more meat than the average American adult eats. This climate demands that the inhabitants of the country should eat a more nutritious food than is eaten elsewhere; then again Americans are much less fitted to take stimulants than foreigners are, on account of the climate in which we live. I think that foreign vices are responsible in a very large degree for American nervousness. The habit of taking alcoholic drinks before meals is one of these bad vices; and very few know the tremendous amount of harm and injury that one drink before breakfast in the morning causes. The foreign habit of drinking absinthe, liqueurs and cordials, is another very bad one. Brain food is a misnomer. Many people claim that fish is a brain food because phosphorus is found in fish to a very large extent. This is not so. A great many advertisements set forth the advantages of cereals as brain foods. These are also mistakes. The best brain foods are cold fats and vegetable oils. I consider one of the most important articles of diet that we can possibly have in this country to be cotton seed oil. It is one of the best fats and much more healthful than lard. If persons would use more olive oil they would be a great deal better off. There are lots of ways in which they can take the olive oil without its being unpleasant for them. There are a great many adulterants of food which, if used under their own names,

would be much more valuable than the food which they are now sold to represent. I consider oleomargarine much more healthful than butter. Butter may contain, during its manufacture, products of decomposition, and unless the butter is of the best possible quality it may very often do a great deal of harm. Wheaten food or cereals taken to the exclusion of all else is very injurious to the brain and nervous system. It is unwise for anybody to live on a cereal diet to the exclusion of animal diet. If Americans would live more quietly, would not be in such a constant state of rush and excitement, and would eat more food that contained some nourishment rather than living on fancy dishes, there would be a great deal less nervousness, insomnia and general nervous disorders than there are at the present day. This nervousness has only come on of late years comparatively, and it is caused by the whirl of excitement in which Americans, and especially inhabitants of large cities, will live. They keep on the go from early in the morning until late at night, when half of that time should have been given up to rest and recreation. They try to crowd into a short space of time all the work they possibly can in order to gain the almighty dollar, and by doing so ruin their health and constitution. Men should rise early in the morning eat a good breakfast that contains a certain amount of nourishment and discard all such items as toasted muffins, corn bread, wheat cakes or anything of the kind, rest a little after their breakfast, go through the day's business with as little worry and as little excitement as they possibly can, and after their work is finished in the evening, say from 4 to 6 o'clock according to the time when their business hours close, they should have their dinner, eat it slowly and comfortably and then give themselves up entirely to rest and recreation. They should try to develop other parts of their brain than those which are exercised in following their daily vocations. And then they should get to bed early and get a good night's rest. Attempting to work without a proper rest at night is a mistake, and if a man is troubled with insomnia at all he should consult a physician and have it remedied before any dangerous result arises from it."

LIGHTNING BY RAIL.—A great many people seem to be laboring under the impression that a trip in the electric cars during a storm accompanied by lightning is exceedingly dangerous. Such, however, is not the case, for so excellent are the precautions taken to insure that the discharge is conducted to the ground that no harm can result. Each car is provided with lightning arresters, which protect the apparatus from all damage, and absolutely insure the safety of the passengers.—*Electrical Review.*

VICARIOUS PLEASURE.—It is related that Ira Tripp, a millionaire of Scranton, Pa., has a peculiar habit. For many years he smoked cigars until his physician told him he must stop smoking or die. Thereupon Tripp hired a negro to smoke all day near him and blow the smoke into his face. The negro did this for years until he died, and his place was taken by a white man. Mr. Tripp is in perfect health. His smoker uses about twelve fine cigars a day. Tripp seems to derive great enjoyment from his second-hand method of indulging in tobacco.

THE DANGEROUS BLONDE.—It is the blonde woman who does the mischief. Lucretia Borgia had yellow hair; so, according to Grant White, had Lady Macbeth, who was petite and slight. The mischief-maker, Mme. Montbazou, was a regal blonde. Mme. Simon's blue eyes looked unflinchingly at the guillotine when the still fairer head of the innocent criminal, Marie Antoinette, fell into the basket. Bloody Mary was slight and fair. Marie de Medici was a fleshy blonde woman, though her hair was streaked with gray when she died on her straw litter at Cologne, and Catherine, of the same noble house, was either fair or stained her tresses to make her appear so. I dare say the daughter of Herodias, who danced before Herod, was yellow-haired—the old masters made her so (those high-born Jewish maidens had the blonde tint)—and nobody doubts that Delilah's blue eyes bewitched the secret out of the soft-headed, soft-hearted, black-bearded giant.

CORRESPONDENCE.

A GREAT SUGAR REFINERY.

PHILADELPHIA, October 23, 1889.

Editors ANALYST: It had been expected that the big Spreckels' Refinery would be started to-day and from this time on would turn out 1,000 tons of sugar daily. Owing, however, to the delays of some of the contractors it is not ready, and will not be for about two weeks more. Mr. Claus Spreckels has returned from his trip to Europe and is now aiding his sons in the work of preparation for the opening. The 2,500 incandescent electric lights are all in place and the great buildings were illuminated by them for the first time last night. The building contractors attribute their delay in finishing the buildings to the continued bad weather. Mr. Spreckels says, however, that they are now through with their part, and that as soon as the necessary connections are made they will be ready to start. Work is now going ahead on the second, or duplicate, refinery, alongside of the present one. This will double the capacity, and the additional buildings will be completed early next year. Mr. Spreckels is still pushing his beet-sugar project and has already conferred with a great many farmers, who have made a conditional agreement to raise the sugar-beets if he will erect the necessary factory. This he has nearly determined to do. I will keep you posted.

H.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

October.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

CINNAMON BREAD.—Take some light yeast bread dough and roll out about three-quarters of an inch thick; cut into round cakes the size of a breakfast plate; cover with thin slices of butter, sprinkle well with cinnamon, then with sugar; let it rise till very light and bake.

FRIED BEEFSTEAK.—Hack the steak thoroughly with a sharp knife; have a frying pan very hot, put the steak on it, and in a few moments turn quickly with a knife; do this several times, turn on to a hot platter; season well with salt, pepper and butter; cover with another hot platter for a few moments; put a little butter and some brown flour into the pan and cook a few minutes; add milk to make it thin enough, season, pour into the gravy boat and serve with the steak.

MOCK TURTLE BEAN SOUP.—Let a pint of black beans soak over-night; in the morning put them into three quarts of water with a soup bone or small piece of lean salt pork, and let them boil for three or four hours; then strain through the colander, washing enough of the beans through to make it moderately thick; season with pepper, salt, lemon juice and cloves; pour into the tureen; put a few very thin slices of lemon on top and a hard-boiled egg cut into bits; serve with dice of toasted bread; the heart or liver of a chicken cut into little pieces may also be added.

TURNIPS.—Wash and peel them; cut in slices across the grain and steam until quite tender; season with salt and pepper and butter; mash fine and serve. If boiled they should have very little water put on them, and should be cooked as quickly as possible; they should be thoroughly drained; also they may be sliced and baked.

STEAMED BROWN BREAD.—Mix thoroughly one quart each of milk and sifted meal, one pint of rye flour, half a pint of molasses, one teaspoonful of salt, and a table-spoonful of Horsford's baking powder. Pour the batter into greased moulds, and steam four hours in a kettle half filled with water.

ALMOND LAYER CAKE.—For the layers use a cup cake batter, one cupful butter, two cupfuls sugar, three cupfuls flour and four eggs; two teaspoonfuls baking powder, one cupful cold water, and half the juice and grated rind of a fresh lemon; beat till very light and bake in jelly-cake tins. For filling put a cupful of rich sweet milk over the fire in a farina kettle; when hot stir into it three teaspoonfuls corn starch, one well-beaten egg, one-half cup sugar, one-half cup blanched and pounded almonds; let thicken before adding the almonds; flavor with vanilla, and when cool spread in thick layers between the cakes; ice the cake.

THE LARGEST OLEOMARGARINE FACTORY IN AMERICA.

Twenty miles east of Chicago, just inside the Indiana State line, on the Calumet river, lies the town of Hammond, of 5000 inhabitants. At this point is located the extensive plant of George H. Hammond & Co., who also have an establishment at Omaha. When it is remembered that it is but twenty years ago since George H. Hammond, a practical butcher from Boston, killed the first steer and shipped the meat in a crude refrigerator car to Boston, the extent of the present plant and the magnitude to which the business has attained, it is not only a surprise, but a worthy monument of what business enterprise and perseverance can accomplish. The plant now found here has just arisen like a Phoenix from the ashes. The old buildings, all frame, were struck by lightning in July, 1889, and partially destroyed; two weeks later another fire destroyed every building but one. But such obstacles cannot prevent pushing men from moving forward, so that at the present time (less than three months since the fire) we find this large array of buildings almost rebuilt of brick, very much enlarged and prepared for a larger business than ever. The establishment of George H. Hammond & Co. covers about twenty acres, and consist of the oil building, which is 160 x 112 feet, the basement being used for a cooperage—the first floor, to draw off the oil; the second floor, the room in which the stearine is pressed from the oil, and the third floor is where the caul fat is washed, cut up and fed into the hoppers of the machines. The tank building, where the tallow is rendered, is 160 x 180 feet. It has the charging room on the top or third floor—two floors are occupied by tanks and in the basement the drawing off is done. Here tallow, tallow oil, and neats-foot oil are made. The slaughter houses and coolers occupy another building, 227 x 348 feet, 125 feet of which is four stories high, and is used for tripe and paunch rooms. There are also here two ice houses, 300 x 90 and 390 x 248 feet. Car shops, 60 x 180, where the refrigerator cars are repaired and repainted. A fertilizer factory, for the conversion of blood and offal, 80 x 145 feet, is being constructed. In addition, they have the Illinois ice houses on the Calumet river, 300 x 200, and another on Wolf Lake, 312 x 60. A ware-house, 112 x 145 feet, with two floors above the basement, is in course of construction. An engine and boiler house, 41 x 227, furnishes power amounting to over 350 horse-power. The hog slaughter house, 70 x 40, and a sheep house, the same size, together with some small buildings, 120 x 20, occupied for tinsmiths, blacksmith and carpenter shops, complete this plant;

but we must not omit to describe the oleomargarine factory, which is 60 x 110, and three stories in height. The basement is occupied for storage purposes, the first floor for packing and shipping, and the upper floor for churning and salting. The capacity of this factory is 50,000 pounds of oleomargarine in 10 working hours. This product is put up in $\frac{1}{2}$, 1, 2, and 5 pound rolls, packed solid in firkins holding, 10, 20, 30 or 56 pounds each. In the town of Hammond this oleomargarine is sold for 15 cents per pound as against 27 to 28 cents for ordinary butter. About two-thirds of the substances used as butter in Hammond is oleomargarine. All the employees of Hammond & Co., and these form the bulk of the inhabitants of Hammond, use this oleomargarine. It is loaded at the door of the factory in refrigerator cars, and thus shipped in every direction. The shipping facilities of this plant should have been spoken of above. Five railroads center here, and ample sidings furnish means of reaching every point. It takes about 900 hundred cars to keep the business moving. Hammond & Co.'s own tracks completely surround the plant, and connect with every railroad centering in Chicago.

A more particular description of making oleomargarine may be given thus. Only the best and freshest fat can be employed. This is the caul fat, which, as soon as taken from the animal, is carried in clean vessels to the oil house. Here it is thoroughly washed in cold water, cut up and melted in steam-jacketted kettles at a low temperature, to prevent any tallowy smell or flavor, granulated, and then pressed in clean linen cloths by hydraulic pressure to separate the stearine. The remaining oleo oil is pumped from its containing tanks to the butter mixer. Oleomargarine consists of oleo oil and milk, with a little salad oil added in winter to keep it soft. The oleo oil added to milk brings the fatty percentage of the mixture up to about what cream would be. It is then churned, washed, salted, worked and colored the same as butter. It may be added that the manufacturer of one of the finest brands of gild-edge dairy butter informed the writer that good oleomargarine helped him to sell his best butter, while poor dairy butter injured the sale of choice varieties.

BUSINESS NOTES.

A GREAT SAN FRANCISCO COMMISSION HOUSE.

One of the most extensive shipping and commission houses in San Francisco is that of the Johnson-Locke Mercantile Company, who succeeded to the better part of the business of William T. Coleman & Co. They are the receiving and distributing house on the Pacific coast for the following well-known Eastern goods: Royal Baking Powder, Walter Baker & Co.'s chocolate, John Dwight & Co.'s soda and saleratus, Kingsford's Oswego starch, N. Y. condensed milk, Lea & Perrins' Worcestershire sauce, Burnett's flavoring extracts, Diamond matches, Frazer's axle grease, N. Y. Tartar Co.'s cream of tartar, Babbitt's soap, lye and saleratus, Kinney's cigarettes, Hazard's Shrewsbury catsup, the Cunningham & De Fourier Co.'s English potted meats. They also sell and ship all over the world Coleman flag brand of extra California canned fruits, dried fruits, raisins and Columbia River and Alaska salmon, and the canned fruits put up by the following packing companies: The San Lorenzo, J. Lusk, San Mateo, California Canning Co., Santa Clara Packing Co., and George W. Handy's prunes; Thistle Packing Co.'s Columbia River and Alaska salmon, Karluck Co.'s Alaska salmon, Scandinavian Packing Co.'s and Fishermen's Packing Companies' Columbia River salmon. With branches at Portland and Los Angeles and extensive connections in Australasia, China, Japan, the East Indies, Sandwich Islands, Mexico, Central and South America, an accurate knowledge of the markets, long business experience, good reputation and industry, and, above all, a record of great success, it is not to be wondered

at that they have become the most extensive house on that coast. They have large and commodious offices at 121 Market Street, San Francisco.

THIN IRON SHEETS.—Iron is rolled so thin at the Pittsburgh iron mills that 12,000 sheets are required to make a single inch in thickness. Light shines through one of these sheets as readily as it does through greased tissue paper.

TO MAKE HOLES IN STEEL.—Sometimes great difficulty is experienced in making holes in steel that is too hard to cut or file easily. This is effected by the following mixture: One ounce of sulphate of copper, quarter of an ounce of alum, half a teaspoonful of powdered salt, a gill of vinegar and twenty drops of nitric acid.

NEW TRACES.—The ordinary leather and chain traces for drawing carts have been superseded on the Eastern Railway of France by chains with spiral springs, which permit the horse gradually to bring its force to bear on the vehicle in starting it. They are found more serviceable than the rigid traces.

TOUGH PAPER.—Paper, tough as wood, is said now to be made by mixing chloride of zinc with the pulp in the course of manufacture. It has been found that the greater the degree of concentration of the zinc solution the greater will be the toughness of the paper. It can be used for making boxes, combs, for roofing, and even, it is added, for making boats.

PEARLS AND CORAL.—Set pearls which have become discolored by wear may often be improved by placing in a covered vessel with a mixture of whitening, ammonia and

water, and permitting them to remain a few hours. Coral may be cleaned by soaking in soda and water for some hours. A lather of soap is then made and brushed upon the coral with the softest of hair brushes. A frequent changing of the water is desirable.

FLOWERS AND HEALTH.—It is now established that flowers and the perfumes distilled from them have a salutary influence and constitute a therapeutic agency of high value, and that residence in a perfumed atmosphere forms a protection from pulmonary affections and arrests phthisis. In the town of La Grasse, France, where the making of perfumes is largely carried on, phthisis is unknown.

SAFE REMEDIES.—Sir William Gull says that when fagged out by professional work he recruits his strength by eating raisins, and not by drinking wine or brandy. Another good saying from the same source: A pint of warm water, taken on an empty stomach in the morning, is the safest and surest of all remedies for habitual constipation. It stimulates peristaltic action, thereby giving a normal action without pain. If the tongue is coated, squeeze a lemon into the water and drink without sweetening.

SHAVED ICE.—A saucerful of shaved ice, says the New York *Medical Times*, may be preserved for twenty-four hours with the thermometer in the room at 90 deg. Fahr., if the following precautions are observed: Put the saucer containing the ice in a soup plate and cover it with another. Place the soup plate thus arranged on a good heavy pillow, and cover it with another pillow, pressing the pillow so that the plates are completely embedded in them. An old jack-plane set deep is a most excellent thing, with which to shave ice. It should be turned bottom upward, and the ice shoved backward and forward over the cutter.

EGGS AS FOOD.—The food value of eggs, as compared with fruits, has been studied by Fresenius, who, after a long series of analyses, states that one ordinary hen's egg contains as much nourishment as 17 ounces of cherries, 20 ounces of grapes, 24 ounces of russet apples, two pounds gooseberries, and 4 pounds of pears. The same distinguished authority says that 114 pounds of grapes, 127 pounds of apples, 192 pounds of pears, and 327 pounds of plums are equal in nourishment to 100 pounds of potatoes.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE

SCRIPT NAME OF *Stewart Hartshorn* **ON LABEL, AND GET THE GENUINE**

HARTSHORN

Fine Table Wines

From our Celebrated Orleans Vineyard.

Armad Hamworthy & Co.

Producers of the

ECLIPSE

CHAMPAGNE.

530 Washington St.

SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.

PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.

CHICAGO: C. JEVNE & CO., 110 Madison St.

ST. PAUL: C. JEVNE & CO., 114 E. Third St.

HOSPITAL REMEDIES

THE Favorite Prescriptions of the Brightest Medical Minds in the world, as used by them in the Hospitals of London, Paris, Berlin and Vienna.

ONE MEDICINE FOR ONE DISEASE.

No. 1—Cures Catarrh, Hay Fever, Rose Cold, Catarrhal Deafness.

No. 2—Coughs, Colds, Bronchitis, Asthma, Consumption. A Peerless Remedy.

No. 3—Rheumatism, Gout.

No. 4—Liver & Kidneys, Dyspepsia, Indigestion, Constipation, Bright's Disease.

No. 5—Fever and Ague, Dumb Ague, Malaria, Neuralgia.

No. 6—Female Weakness, Irregularities, Whites. A Golden Remedy.

No. 7—A Perfect Tonic, which gives Health, Form and Fullness, Clear Complexion, Good Blood and lots of it.

No. 8—Nervous Debility, Loss of Power, Impotence, an incomparable remedy.

RELIABLE AGENTS WANTED.

Every bottle guaranteed to cure its special disease if CURABLE and to give permanent relief ALWAYS. Descriptive Circulars sent free on application. HOSPITAL REMEDY COMPANY, Toronto, Canada.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

THE GREAT AMERICAN TEA COMPANY

BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 80cts. per lb. Special—We will send by mail a **Trial Order** of 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

WHOOPING COUGH CURED

Or Prevented by Page's Vaporizer and Cresolene.



We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for **Whooping Cough**, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.

ROBINSON'S SURE CURE FOR RHEUMATISM AND NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist,
125 West 45th Street, NEW YORK CITY, N. Y.
P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

Any Retail Druggist in the United States who desires to obtain Advertising Matter, Show Cards, Signs, etc., which will assist and instruct him in the sale of Harriet Hubbard Ayer's Recamier Toilet Preparations and Vita Nuova, should address THE RECAMIER MFG. CO., 52 and 54 Park Place, New York City.

❖ PICTURES. ❖

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,

at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
47 West Twenty-Second St., New York.

LEA & PERRINS' SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GENTLEMAN at Madras, to his brother at WORCESTER, May, 1851.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most wholesome sauce that is made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

THE AMERICAN ANALYST.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

SEE VARIOUS PREMIUMS OFFERED.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

GABRIEL'S MARRIAGE,

By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,

By ETTA W. PIERCE.

THE RIGHTFUL HEIR,

By M. T. CALDOR.

THE DOUBLE HOUSE,

By MISS MULOCK.

TWICE SAVED,

By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, profusely and handsomely illustrated, and making a most delightful and very interesting volume. We will send the book by mail post-paid to any address upon receipt of only Twenty-five Cents.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the AMERICAN ANALYST.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Vandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.



Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

"BILLET"

are

Carefully Selected—

—French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

Nieder-Selters-Water.

BOTTLED UNDER SUPERVISION OF
THE PRUSSIAN GOVERNMENT.

UNSURPASSED AS A

TABLE WATER.

The Genuine Nieder-Selters-Water is for sale by all reliable, first-class Grocers and Druggists, and bears the label and seal of the Prussian Government.

ANTHONY OECHS,
SOLE AGENT.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutics that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, ONLY THREE possessed the power of acting on starch. These brands were MALTINE, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.
At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-YIBURNIN.
MALTINE with Pepsin and Pancreatin.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,
54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the AMERICAN ANALYST.

Pure * BEER,
LAGER"IMPERIAL" and
"CULMBACHER"

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBS
AND
PRIVATE FAMILIES

—BY—

Beadleston & Woerz

291 W. 10th St. New York.

Orders by Postal Card

promptly attended to.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price, Analyst.			Price Including Regular American Price, Analyst.	
American Magazine.....	\$3 00	\$3 25	Golden Days.....	\$3 00	\$3 00
American Rural Home.....	75	1 05	Good Housekeeping.....	2 50	3 00
American Agriculturist.....	1 50	1 60	Harper's Bazar.....	4 00	4 00
Art Amateur.....	3 50	4 00	Harper's Young People.....	2 00	2 25
Arthur's Home Magazine.....	2 00	2 00	Harper's Weekly.....	4 00	4 00
Art Interchange.....	3 00	3 25	Harper's Monthly.....	4 00	3 50
Babyhood.....	1 50	1 60	Household.....	1 10	1 35
Ballou's Magazine.....	1 50	1 75	Housekeeper.....	1 00	1 25
Bedford's Magazine.....	2 50	3 00	Ledger.....	3 00	3 00
Cassell's Family Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Little Ones and Nursery.....	1 50	1 65
Christian Union.....	3 00	3 00	Peck's Sun.....	2 00	2 25
Cottage Hearth.....	1 50	1 50	Peterson's Magazine.....	2 00	2 00
Country Gentleman.....	2 50	2 50	Puck.....	5 00	4 50
Current Literature.....	2 50	2 75	Rural New Yorker.....	2 00	2 30
Demorest's Magazine.....	2 00	2 00	Saturday Night, Philadelphia.....	3 00	3 00
Family Story Paper.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Farm and Fireside.....	50	1 00	Scientific American.....	3 00	3 25
Fireside Companion.....	3 00	3 00	Scribner's Magazine.....	3 00	3 00
Forum.....	5 00	5 00	Vick's Illustrated Monthly.....	1 25	1 50
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Western Rural.....	1 50	2 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Wide Awake.....	2 40	2 60
Galaxy of Music.....	1 00	1 25	Yankee Blade.....	2 00	1 50
Gleason's Home Circle.....	2 00	1 50	Young Ladies' Journal.....	4 00	3 50
Godey's Lady's Book.....	2 00	2 25	Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 Park Place, New York.

AVOID LITIGATION! BE YOUR OWN LAWYER!

EVERYBODY'S LAW BOOK.

Litigation is a very expensive luxury; avoid it, for it doesn't pay. Thousands of lawsuits are brought because people do not understand the simple principles of law and their own and others' rights, and there are plenty of lawyers always ready to take advantage of this lack of knowledge. The object of this volume is to impart, in a simple, concise manner, the fullest information regarding legal matters. It is to be used as a work of reference, and in all ordinary emergencies will save employing a lawyer. It is a complete compendium of business and domestic law, by a prominent member of the New York bar, containing concise explanations of the general laws and the laws of the several States, regarding Administrators and Executors, Affidavits, Agency, Agreements, Apprentices, Arbitration and Award, Assault and Battery, Assignments, Attachments, Banks, Bills of Exchange, Checks and Promissory Notes, Bills of Sale, Chattel Mortgages, Citizens and Aliens, Common Carriers, Contracts, Corporations, Deeds and Mortgages of Real Estate, Descent and Distribution, Lower, Easement, Exemptions, Farmers' Law, Fences, Fixtures, Garnishment, Gifts, Guaranty, Guardian and Ward, Heirs and next of Kin, Homestead Exemptions, Husband and Wife, Infants, Interest and Usury, Landlord and Tenant, Libel and Slander, Liens, Limitation of Actions, Marriage and Divorce, Rights of Married Women, Master and Servant, Parent and Child, Partnership, Payment and Tender, Personal Property, Power of Attorney, Principal and Agent, Privileged Communications, Railroads, Railroad Real Estate, Receipts and Releases, Replevin, Right of Way, Seduction, Trustee Process, Warranty, Water Rights, Wills and Codicils. Together with complete forms of Acknowledgments, Agreements, Articles of Co-partnership, Assignments, Award of Arbitrators, Bills of Sale, Bonds, Chattel Mortgages, Contracts, Deeds, Executors' and Administrators' Accounts, Interest Table, Liens, Mortgages of Real Estate, Powers of Attorney, Releases, Satisfaction Pieces, Wills and Codicils, etc., etc., specially adapted for the daily use of those who are not lawyers, with directions for their preparation. Every farmer, mechanic, manufacturer, business man, professional man, merchant and householder will find the information contained in this book of great value, and will have occasion to refer to it nearly every day. It is the cheapest book of the kind ever published, and is quite as complete and valuable as other works for which four times the amount, or more, is asked. **Everybody's Law Book** is a large volume of 128 pages, 12mo, with handsome cover. It will be sent by mail, post-paid, upon receipt of only **Twenty-five Cents**. Send for it! It is worth ten times the amount asked for it to any man, young or old, in America.

Address,

ANALYST PUBLISHING COMPANY,

19 PARK PLAE, NEW YORK.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

A BUSINESS BENEFIT.

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

● The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and
Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

DR. PRICE'S CREAM BAKING POWDER

**MOST PERFECT MADE.
NEW YORK'S GREAT CHEMIST.**

This is to certify that I have analyzed Dr. Price's Cream Baking Powder. I find it composed of pure materials, compounded on correct scientific principles. The ingredients are accurately and scientifically proportioned. Hence, bread or biscuits prepared with it are better suited for digestion.

R. OGDEN DOREMUS, M.D., LL. D.,
Prof. Chemistry and Toxicology in the New York Bellevue
Hospital Medical College. Prof. Chemistry
and Physics in the College of the
City of New York.

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.
Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, in China, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COLDEN." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,
115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

JOHNSON LOCKE MER. CO. Shipping & Commission Merchants, SAN FRANCISCO, CAL.

Agency at
PORTLAND, ORE.

Agency at
LOS ANGELES, CAL.

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins, Walnuts, Almonds, Dried Grapes, Borax, Barley, Mustard Seed, Salmon, Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

ESTABLISHED 1872.

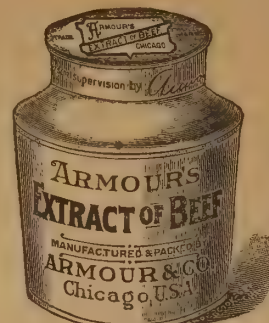
GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY-STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed by the Medical Profession for
INVALID'S BEEF TEA



[FLUID.]

The Standard of Excellence.

KINGSFORD'S OSWEGO Pure and Silver Gloss



STARCH

KINGSFORD'S
OSWEGO CORN STARCH

FOR
Puddings, Custards, Blanc-Mange, Etc.
THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

NOV 11 1889

UNIVERSITY OF ILLINOIS.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 45.

NEW YORK, THURSDAY, NOVEMBER 7, 1889.

WHOLE No. 141

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Ambergris and Amber.....	534
Americas, The.....	531
A Sensible Measure.....	534
California Industries.—Continued.....	531
California Wines Made in New York.....	532
Champagne.....	532
Correspondence.....	532
An Impending Issue.....	532
Deadly Cigarette, The.....	531
Diamond, The.....	533
Domestic Dietetics.....	533
Editorials.....	529
The Lost Cause; A Great Scientist Gone; Artificial Silk; Another Indiana Decision; A Woman's Blunder; A Time Worn Suit; The Ideal Beef Inspection.	
Exotic Fruits.....	534
Fashionable Tea.....	533
Pure Water.....	532
Saucepans.....	533
Silk from Wood Pulp.....	530

THE LOST CAUSE.

The retail beef conspirators overreached themselves so utterly in their "local inspection" scheme last winter that they have been for the past half year in a state of collapse that would be pitiful to witness were it not for the comical contrast it presents to the truculent attitude they so lately occupied. A majority of the more influential papers that advocated the exploded scheme have acknowledged their error, and are seeking the contrivance of new issues to warm up their constituents into a subscription-paying enthusiasm. Thus the *National Stockman* says: "In view of recent developments, we are forced into the belief that it is a waste of time and effort to pursue further the idea of regulating the dressed beef trade by enacting laws for the local inspection of cattle. The late decision of the United States District Court of Minnesota pronouncing all such enact-

ments unconstitutional, is a confirmation of other decisions of a like character so significant that its meaning cannot well be mistaken. The probabilities against a reversal of this in the Supreme Court of the United States are so great that an appeal seems almost hopeless." The judicious views above quoted express the general sentiment of the cattle industry press throughout the United States. The organs of the retail trade, however, are reluctant to confess their defeat so soon after indulging in the extravagant antics with which they announced their imaginary success. But it is to no purpose, and they may as well throw up the sponge, for their "jig is up" and their lost cause cannot be galvanized again into even a semblance of vitality. The politicians this fall decline to singe their fingers, as they did a year ago, by lending themselves to the scheme for raising the price of their constituents' beef; and even our sprightly contemporary, the *Butchers' Advocate*, which, with characteristic maladroitness, is frantically searching for the "lost ditch," and which declares with amusing valor in regard to local inspection, "For ourselves, we have nailed our banner to the masthead and shall defend it, at all hazards, until overwhelmed by the only power in the land competent to overthrow us—the Supreme Court of the United States," confesses in the same issue that it is virtually alone in its defiant attitude, and that in the shuffling of the political pack this year "no arrangements by which local inspection laws are to have 'friends at court' have yet come to the surface." The trouble is the Court is the very place where the local inspectionists encountered their overthrow.

A GREAT SCIENTIST GONE.

There died at Manchester, England, on October 11, one of the world's great original workers in physical science, who, though one of his discoveries gave him rank among the most distinguished investigators of his day was scarcely known by name outside of scientific circles. Dr. James Jones Prescott Joule who passed away in his 71st year, was the discoverer, in 1843, of the important principle of the "Mechanical Equivalent of Heat," which was the first experimental step toward the modern doctrine of the conservatism of force. It was, briefly, the discovery of the exact numerical relation or equivalence of any given amount of heat and the mechanical force necessarily expended in producing it. After a long series of experiments he discovered that the heat generated by one pound of water falling from a height of 772 feet, and thus converting all its moving power into heat by percussion or friction, is such as would raise the temperature of one pound of water one degree Fahr. Thus, knowing the weight of any body and the rate at which it is moving, and having deduced the height from which it would have to fall in order to produce the same velocity, we can estimate what amount of heat would be produced if its motion were to be suddenly converted into heat by collision or percussion, and, conversely if we know the amount of heat generated and the

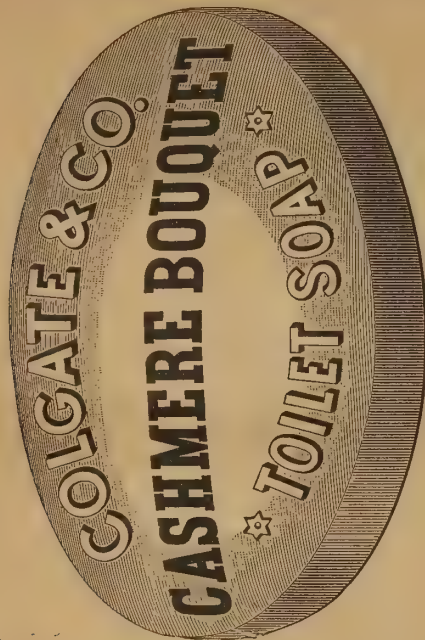
weight of the colliding masses we can calculate the velocity of collision. Joule's father and grandfather were brewers, but he relinquished trade to devote himself to scientific pursuits, his instructor in chemistry being the famous Dalton, the propounder of the atomic theory. At the age of 19 Joule published an account of a new electro-magnetic engine, and his subsequent contributions to scientific literature were numerous and varied. He lived, a modest, retired life, and consequently was hardly known to the outside world, but he was highly-honored among those whose opinions alone he valued, gold medals and other marks of appreciation being showered upon him by all the leading scientific bodies of Great Britain and Europe. In 1878 Queen Victoria conferred upon him a pension of \$1,000 a year, and few pensions emanating from that source were ever better deserved.

ARTIFICIAL SILK.

In another column will be found an interesting account of the manner in which artificial silk is produced by the process invented by M. de Chardonnet, of Lyons and referred to by the *AMERICAN ANALYST* a few weeks ago. It will be seen that the method is almost a mechanical reproduction of the operations which take place in the production of the natural silk fiber. The worm consumes the mulberry leaves, digests them to a pulp, and finally dissolves the pulp into a gummy varnish, which it then forces from its glands through capillary apertures in spinning the cocoon. The chemical compositions of the silk and the collodion fibers are not greatly different, and really M. Chardonnet's process may be considered as a sort of mechanical silkworm imitating natural processes on a large scale. It is unnecessary to discuss the revolution which the general introduction of such a process would create in the silk industry, as it would remove many of the existing obstacles to the development of the manufacture of silk in this country and place it upon a purely mechanical basis. American inventors may develop further improvements in this process now that its practicability has been shown and it is not too much to expect that artificial silk will be a formidable rival to the natural article at no very distant date.

ANOTHER INDIANA DECISION.

The "local inspection" laws have been denounced in every court that has examined them. On October 16th the Criminal Court at Indianapolis, Ind., dismissed an indictment against the agent of the Chicago Dressed Meat Company who was arrested for selling meat in violation of local inspection law. The judge covered very much the same line of authority presented in other decisions touching the law in Indiana and Minnesota. He held the law to be unconstitutional, and in conclusion said in the interest of public health the State could enact rigid inspection laws and exclude from the State any articles offered for human food which, from its



noxious condition, put it without the pale of legitimate commerce, and could, under reasonable quarantine and inspection laws, meet at its borders such articles as by reason of their putrid or pestilential condition had lost their commercial character, and prohibit their introduction. The act in question went far beyond this. Pure and wholesome dressed meat was a useful commodity, recognized as property, and the subject of legitimate trade and lawful interstate commerce. This law he said did not discriminate between the good and the bad, but excluded all dressed meats—the sound and the wholesome as well as the unsound and the unwholesome. The same process of reasoning that would sustain its validity would sustain excluding from importation and sale flour or any other prepared or manufactured articles of human food, because the grain or other materials from which it was made had not been inspected in the State by officers appointed for that purpose. This would be to allow the State rather than the usages of the commercial world to determine what are articles of commerce, and to thereby control and regulate interstate commerce, thus usurping the powers of delegates to Congress.

A WOMAN'S BLUNDER.

The industrious and versatile newspaper reporter called "Nelly Bly," finding nothing better to do one day last week, contracted a convenient headache, and with that as her capital in trade set out to consult seven different physicians. The result of her interviews was written up in her most sensational style in the *N. Y. World* of Sunday, October 27. The article would have been very interesting if the headlines intended to give the gist of the story had been truthful but they were not. The patient claims that seven physicians, all of them competent and of good reputation, had made seven different diagnoses of her case and given her so many different remedies. The truth is that the seven different diagnoses to the mind of any competent medical man, prove conclusively that each one of the seven physicians had agreed with the other six as to her trouble, and the character of the medicines they prescribed proves this. As she states it in the headlines, the seven diagnoses were dyspepsia, malaria, stomach trouble, shattered nerves, defective eyes and neuralgia, but a comparison of what the physicians really did say, shows that they all found that she had a headache, arising like all headaches, from a painful sensation in a nerve caused by irritation of a nerve centre. Whether this irritation was caused by indigestion, strained eyes or malaria, the doctors all prescribed similarly tonics, lax-

atives and nerve sedatives. Three out of the seven were candid enough to tell her that they were not sure of the cause of her trouble, but wanted to watch her symptoms; three positively stated the trouble to be indigestion; two thought the eyes were involved; and all asked questions pointing to a lingering suspicion on their part, that the eyes were the source of the trouble, that is they suspected megrime; two agreed on nervous symptoms and anæmia, and one only suggested malaria. It is possible that all were right, and yet, Miss "Bly," to make her article sensational, endeavors to make the reader believe that they all seven disagreed. In the prescriptions given there is even more unanimity than in the diagnoses. Of the six physicians who gave her prescriptions, all gave her tonics and nervines, while two hit the nail more squarely on the head by prescribing cathartics. The wonder is, with her vague and entirely unreliable statements of her symptoms, consisting rather of her own conclusions and inferences, than of facts, that these physicians agreed so well. Dr. Grace Peckham, in an interview published on Monday, states the case exactly when she says that the doctors had all agreed on the case, and that any one of the prescriptions given would have cured the patient. It remains to be said that such a treacherous and uncalled for violation of all decencies as this publication of private consultations with reputable physicians, revealed in this sensational article, had so far, never previously occurred, and was hardly to be expected from even the most sensational newspaper.

A TIME WORN SUIT.

A Russian paper notes the termination recently of a lawsuit begun in 1490, or four centuries ago. The litigation was over a forty-acre tract of uncultivated land, has been handed down through numberless generations, and curiously enough has been finally settled by peaceful arbitration. This protracted litigation, as well as the satisfactory manner of its termination, reminds us of the celebrated case described by Rabelais in which Pantagruel acted as umpire. This classic lawsuit had lasted many years between two French nobles. Innumerable law papers had been prepared on both sides, and all the courts had been gone through, with the result of utterly befogging and mystifying the claims of both parties. The umpire above-mentioned being appealed to agreed to decide the matter provided that all the papers and documents should first be burned up and the claimants then should plead their own cause personally before him. As, owing to the lapse of time, they had both forgotten altogether what was the origin of the controversy, their respective arguments were made up of blind and incoherent repetitions of such of the legal jargon as they could recollect from reading the documents drawn up by their lawyers. Therefore, Pantagruel gave his decree in language equally unintelligible as the pleaders' statements. Both parties were fully content with the incomprehensible sentence he passed, neither of them seeing anything in it to make him think he had lost his cause. When this satire of Rabelais was published, somewhere about 1534, the Russian law suit had already been progressing over fifty years.

THE IDEAL BEEF INSPECTION.

At the concluding session of the American Public Health Association, held in Brooklyn, October 24, a paper was read on "The necessity for a more rigorous inspection of meat-producing animals at the time of slaughter," by Dr. D. E. Salmon, Chief of the Bureau of Animal Industry at Washington, who maintained that, in order to protect the health of citizens, to maintain the reputation of American meats in foreign markets, and to discover communicable diseases before they spread beyond control, inspectors having greater professional skill than those employed at present should have control of the work, and a more thorough inspec-

tion should be exacted. The concentration of the slaughtering establishment at a few points, which is objected to by some interests—the speaker of course meaning thereby the Eastern retail butchers—affords the opportunity for the adoption of the ideal system of inspection, he thought. The inspector should not be content with a view of the live cattle, but should be present at the time of slaughter and examine the viscera of each animal. The large slaughterers favor a rigid inspection. "There was no reason," he said, "to think that diseases are more prevalent among animals in this country than abroad. According to the information in possession of the United States Government, the charge made by English authorities of the prevalence of pleuro-pneumonia in cattle shipped to Europe from our Western States and Territories is unfounded."

SILK FROM WOOD PULP.

DESCRIPTION OF THE FRENCH DISCOVERY OF CELLULOSE SILK.

Among the varied exhibits connected with the display of textile industries at the Paris Exposition, there is one which, from the unostentatious manner in which it is displayed, has hardly attracted the attention which it deserves. This is the process of M. de Chardonnet, of Lyons, for making artificial silk, which was mentioned by the *AMERICAN ANALYST* in the issue of October 10. In an out-of-the-way corner of the Palais des Machines may be seen a case filled with what appears to be an exhibit of fine silk dress goods, while within the same railing is a wrought iron tank and a stand containing some curious looking apparatus, from which four tubes of glass project. Above these are four reels steadily revolving and reeling off fine silky like fibers, which come from the glass tubes. The semblance to natural silk is very great, and the manufactured goods in the case are undistinguishable from the product of the cocoon and loom. Yet, before the observer is the apparently endless thread running from what appears to be a glass tube filled with a clear transparent liquid. As a matter of fact this little exhibit is producing artificial silk made from a cellulose produced from wood pulp, and while the details of the operation are not entirely given to the public, a close observation revealed enough to show the line upon which M. Chardonnet is working. The fiber is really produced from a sort of collodion, not greatly different from that employed in photography and surgery. Collodion as used in the arts is generally made from gun cotton, or pyroxylin, dissolved in a mixture of ether and alcohol, and is remarkable for the ease with which a smooth, tough film may be produced by flowing it over a smooth surface, such as glass, where it soon sets and may be used as a base for a sensitive silver solution, as in photography, or may be stripped and used for any desired purpose. The nature of a collodion depends very largely upon the proportions of ether and alcohol in which the pyroxylin is dissolved, and an excess of ether renders the film very tough and strong, although the quick evaporation of the ether makes such a collodion very rapid in setting. M. de Chardonnet has taken advantage of this property and devised his process and apparatus to form threads of collodion and use them as a substitute for silk. Instead of using gun cotton for the pyroxylin, he uses a nitrated cellulose prepared from wood pulp, but by a process which he has succeeded in keeping secret, this otherwise dangerous explosive is rendered entirely unflammable. This cellulonitrin is dissolved in ether and confined in a close tank, as exposure to the atmosphere would permit the rapid evaporation of the ether, and cause the solidification of the entire mass. It will be seen that thus far he has produced a substance very much like the gummy liquid in the glands of the silk worm before it begins to spin its cocoon. The prepared collodion is subjected in the tank to sufficient pressure to be capable of forcing the gummy liquid through the

fine capillary apertures which determine the fineness of the proposed threads. In order to prevent the gumming up of these minute openings, which are made by drawing glass tubes out to very fine apertures, the openings deliver the threads into larger tubes filled with water, and as this is the only part of the operation which is visible to the spectator the rest of the process is not very evident. After the threads emerge from the water they pass through a space of about two or three feet before reaching the reel, thus giving ample opportunity for the evaporation of the ether and the setting of the silky thread of collodion. The artificial silk threads thus formed possess a brilliant silky luster, are exceedingly tough and elastic and appear in every way to be suitable to take the place of natural silk. Indeed, in some respects the artificial silk possesses superiority over the natural article, particularly in the matter of uniformity. Silk from the cocoon, as is well known, is very unequal in thickness, being thickest in its middle portion and tapering off toward each extremity. This variation is so great that the diameter of the fibre varies from $\frac{1}{1000}$ to $\frac{7}{100}$ of an inch in thickness at various portions of its length. The natural fiber is also not round, but somewhat flattened in cross section. The artificial silk is perfectly uniform in thickness, being produced continuously through a constant opening, and is also perfectly round, its section being determined by the shape of the aperture. The solution from which the silk is prepared may be colored with aniline, and in the apparatus at the Paris Exposition the different reels are winding different colored silks. The product requires no further treatment after reeling to distinguish it from natural silk, and as an evidence of its similarity it can be interwoven with silk from the cocoon without difficulty. The process as above described is the result of much careful experimenting, and has been developed in the midst of the silk industry of Lyons by those who have become familiar with all the requirements of the trade. The future of the process must depend wholly upon commercial considerations, for the perfection of the product and the practicability of the process seem to be assured. The use of the artificial silk as an insulating material for electrical conductors has been suggested, and it appears to be particularly fitted for this use. While no definite figures about the cost of the process can as yet be obtained, it is evident that upon a commercial scale it can be greatly reduced over the expense which must attend a small apparatus such as is exhibited at Paris, but even with this small plant the simplicity of the apparatus and the rate of production show the economy of the process.

CALIFORNIA INDUSTRIES.

THE REMARKABLE PRODUCING CAPACITIES OF THE GOLDEN STATE.

(Continued.)

In speaking of the industries of California, it can hardly be expected that justice can be done if the whole State is taken in consideration at once. California is as large as all the New England States, New York and Ohio combined. Let us therefore take the southern seven counties, San Diego, Los Angeles, San Bernardino, Ventura, Santa Barbara, San Luis Obispo and Kern. These cover an area of 56,576 square miles, a territory larger than the state of Iowa and containing over ten thousand square miles more than either of the states of New York or Pennsylvania. These seven counties unquestionably possess greater diversity of soil and climate than any other portion of the United States. This section shows a magnificent array of productions: Wheat, barley, corn, oats, potatoes, and all other farm produce yield more to the acre here than any other part of the country. The fruits from the apple and pear of the temperate zone to the orange of the tropics are equally at home. Honey is abundant and cheap. Walnuts yield enormously. Wines and brandies to the ex-

tent of nearly five millions of gallons per annum are manufactured here. Rasins equal to the best Dehesas are grown, the annual product reaching 400,000 boxes. Petroleum yields \$1,000,000 annually. The mineral deposits are enormous, and with the exception of silver, scarcely to be reckoned. The shipment of oranges from these counties aggregated 1,400 carloads last season, and will reach over 2,000 carloads the coming season. The following are the fruit trees which are cultivated: Lemon, orange, olive, apple, pear, peach, quince, fig, prune, plum, cherry, apricot, nectarine. The little city of Riverside alone shipped this year about one million dollars' worth of oranges, raisins, and apricots. The mineral productions of these counties are alabaster, asbestos, asphaltum, bituminous rock, borax, cement (pozzolana stone), chalk, coal (bituminous), copper, cinnabar, fire clay, fire sand, gas (natural), gold, granite, graphite, gypsum, iron, limestone, lithographic stone, lead, marble, mica, nickel, onyx, petroleum, potash, potters' clay, rock soap, soapstone, soda, salt (rock), silver, sandstone, sulphur, tin, talc, hydraulic lime. The wheat crop of Los Angeles county for this season is estimated at two million bushels, and the barley crop the same. Hay yielded fifty thousand tons. One of the important crops in this section is alfalfa, a species of clover similar to the sweet clover of the East but superior in prolific growth and nutriment. It has been estimated that weight for weight alfalfa contains as much nutriment as the best English hay. Among the other farm products are potatoes, beets, pumpkins, squashes and watermelons all yielding largely. Beans of all kinds flourish. Cabbages, cauliflower, asparagus, celery, onions, sweet potatoes, carrots, radishes, lettuce, turnips, cucumbers, tomatoes and every other kind of "garden truck" can be raised all the year round. It is upon these the canning factories depend. The finest horses, cattle, sheep, and hogs are raised here, and two large hog packing houses are already in full swing. The dairy interest is yet in its infancy, there being as yet, but two or three creameries in Los Angeles county. Of the small fruits, strawberries, blackberries, raspberries, currants and gooseberries grow nearly the year round. Ostrich farming with a present stock of about 360 ostriches, is constantly increasing. The ostrich product aggregated in value in 1888, \$20,000, a remarkable showing for an industry only five years old. Such is the wealth in produce of Southern California,

(To be continued.)

THE AMERICAS.

COMPARATIVE AREA OF THE CENTRAL AND SOUTH AMERICAN COUNTRIES.

The presence in the United States of the delegates to the Pan-American Congress suggests the reflection that Central and South America embrace an area a little greater than twice the extent of country in the United States and Territories, and a population of about fifty millions, or about one-sixth smaller than the population of the Republic. Mexico covers an area just about equal to that part of the United States east of the Mississippi River, exclusive of the States of Louisiana and Mississippi, and has 10,000,000 inhabitants. The five Central American Republics of Costa Rica, Guatemala, Honduras, Nicaragua and Salvador cover an extent of country about the size of the five States of New York, Pennsylvania, Ohio, Michigan and Illinois, and have a population equal to both New York and Indiana. Brazil's area is somewhat greater than that of the United States, exclusive of Alaska, and her population is about that of New York, Pennsylvania and Ohio. The Argentine Republic, with about half the area of the United States, has a population not quite as large as Pennsylvania. Colombia is nearly equal in extent to New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan and Wisconsin, with a population probably a little less than that of New York State. Bolivia's territory

is somewhat greater than that of the Atlantic States, Pennsylvania, Ohio and Michigan, and has a population about Indiana's figure. Peru is a little larger than the Atlantic States and Pennsylvania, and her population is about that of Illinois. Venezuela is larger than Peru by about as much territory as is embraced in New Jersey, and her population is about equal to Indiana's. Ecuador could contain Ohio, New York, Pennsylvania, Michigan and Illinois, but her population is not quite up to that of Michigan alone. Chili's domain cut up would make States as extensive as Ohio, Pennsylvania and Indiana. Her population is somewhat greater than that of Indiana. Paraguay is big enough to include Ohio and New York within her borders, but her entire population scarcely exceeds that of Cleveland. Uruguay is not quite as large as Ohio and Indiana combined, and has just about the same number of inhabitants as Brooklyn, N. Y. The Guianas are English, French and Dutch colonies. British Guiana, twice as large as Ohio, has just about the population of Cleveland. French Guiana, somewhat larger than Ohio, has about as many inhabitants as Toledo. Dutch Guiana, nearly as large as Pennsylvania, has no more inhabitants than Columbus.

THE DEADLY CIGARETTE.

CIGARETTES DETHRONED HIS REASON.

"God is talking to me," was the exclamation of John Barry, when questioned as to his queer actions by his mother October 26, at their home in East Broadway. John is the twenty-year-old son of Policeman Patrick J. Barry, of the Leonard Street Station. He is a victim of cigarette smoking, having used of late from four to six packages a day, and the doctors say that his reason has been dethroned. He was taken to the insane ward at Bellevue Hospital.

MORPHINE ANTIDOTE.—Professor Bokai (London *Lancet*) believes that the best antidote for morphine is picrotoxin. The two substances act in an opposite manner on the respiratory centre—morphine paralyzing its action, while small doses of picrotoxin increase it. As in poisoning by morphine, death occurs from paralysis of the respiratory centre, and as picrotoxin hinders this paralysis, it follows that picrotoxin is likely to be of real use in morphine poisoning. Professor Bokai also believes that picrotoxin will be found of value in preventing fatal effects from asphyxia from too free administration of chloroform.

RUSSIAN PETROLEUM.—Vice-Consul Wopalenski has this to say about Russian petroleum: "About 300,000 cases of Russian petroleum from Batoum are expected—a quantity which will doubtless greatly influence the Java petroleum market, inasmuch as the monthly consumption of the whole island only amounts to about 160,000 cases. The contents of the case of both American and Russian petroleum is the same—two tins of ten gallons. Some of the above Russian petroleum has already been sold on delivery to retailers at 40 Java cents (about 16 American cents) per case cheaper than the price at which American petroleum, imported in sailing vessels, can be bought. The rate to consumers will be 8 cents a case less than American petroleum."

AN INGENUOUS IDEA.—An ingenious machine for writing and delivering messages to persons at railway stations, or in clubs and other public buildings, has been introduced into London. The apparatus consists of a desk at which to write the message, and a cabinet to contain the messages left in charge. In order to write a message, a penny is dropped into a slit of the desk, thus releasing a locked handle, which on being pulled out, discloses a paper on the desk. The message is written on this by a pencil provided, and the initials of the sender or other sign are written on a second slip of paper always exposed to view. On turning the handle back the message disappears into the cabinet above. The person who expects the message, on examining the machine, sees the initials or sign of the sender, and on dropping a penny into a slit in the cabinet is enabled to read through a window by turning a handle. The machine, while in working order, does not forget to reveal its secrets.

CALIFORNIA WINES MADE IN NEW YORK.

A RE-EXPOSURE OF A TWO-YEAR-OLD EXPOSE.

More than two years ago the *AMERICAN ANALYST* took occasion to expose the dishonest practices of P. Lenk & Co., an alleged California wine house doing business in this city. It was shown that this concern bought pomace, the remnants of grapes from which the juice had been expressed, and manufactured from it mixed with other cheap and frequently deleterious materials a "California wine," which of course could be sold at a price far below the genuine article. Shortly afterwards that concern failed and made an assignment which was set aside by the courts and the entire stock in trade of the bogus wine makers was sold out at sheriff's sale in June, 1888. At the sale all of these bogus wines were sold, bringing from one cent to twelve cents per gallon. Among the whole lot there were not one hundred gallons of any really pure wines and those that had not been made by the firm had been bought for the purpose of making the bogus article. Naturally it became a question who would buy such stuff and what honest mercantile purpose it could be used for. Some of the purchasers at the auction were shrewd enough not to give their real names as it was not necessary, but others did. As some of these men claim to deal only in pure California wines and talk loudly of the purity and honesty of their goods, it might puzzle them to explain why they purchased such stuff as they knew they were getting here. Every barrel was sampled and the samples were submitted to the purchasers in attendance. Either they purchased these fraudulent wines knowingly, in which case it may be asked: What reliance can be placed upon their guarantees of purity, or, what is very unlikely, they bought ignorantly, and then, of course, no one can trust their judgment. Among the purchasers of stock and materials at this Lenk sale were L. Siegel, who is put down in the directory as a dealer in champagnes, N. Gutmann & Co., of 311 Third Avenue, Henry Herrman, 1451 First Avenue, H. Sicher, 521 6th Street, D. Rich & Co., 33 Park Place, Spellman, Marshall & Co., Brooklyn Bridge, Schuchoff, Haehnlein, R. Fischer, B. M. Stern, Sohn Bros., B. Dreyfuss & Co., and A. Dreyfuss & Co. All of these are well-known wine dealers and some have a large sale for their goods which are offered even in the retail market under various fanciful names of California wine companies. The Lenk sale consisted of about 85,000 gallons of this miserable stuff. And when we add that less than \$5,000 was realized for it including numerous fixtures and a large plant of tubs and barrels, it can be judged what it was. All of this we reported it the time when it was new, yet to our surprise the generally wide-awake *Metropolis* publishes it as a new sensation in its issue of October 7. Brother McLaughlin, have the Dutch taken Holland yet? However the information is worth remembering as an illustration of why the California wine market is so dull.

PURE WATER.

GENERAL INADEQUACY OF ORDINARY FILTERING OF DRINKING WATER.

Pure drinking water, says *Medical Classics*, is one of the essentials of healthy existence. The reasons for this proposition multiply with every advance of our knowledge of health, of disease, and of morbid agents. Our recent knowledge of germs has given a new impetus to the study of drinking water. In many communities water is filtered because of its cloudy appearance, in others to get rid of some supposed unhealthful ingredients. The efficiency of ordinary filters has been frequently questioned, and as employed it remains an open question whether, on the whole, they do more good or harm. Dr. Charles T. Curries gives us the results of some extended studies of water, bacterio-

logically. As this bears upon the value of filters, we quote his results. Boiling sterilized water within thirty minutes kills harmful bacteria. No chemical agents sterilize water when used in amounts that are safe. The process of distilling water destroys all germs. Ordinary filters, even if satisfactory as strainers, fail to remove all bacteria from drinking water. It may, indeed, allow a more rapid multiplication of the micro-organisms in the filtering material itself. The finer the substance through which the water passes, and the lower the pressure, the more perfect is the action of the filter in holding back bacteria. Porous rebaked porcelain, carefully selected, is the best of all substances for domestic filters. If thick and strong enough to allow the use of a large surface, and the substance remains perfect, this may yield a fair flow of clear water free from all bacteria. To insure the permanency of this action, the filter should be occasionally sterilized throughout by steaming or other means. Where filtering is really necessary, it is, in general, best for the community that it be done carefully, on a large scale, through sand beds, upon which a fine layer of organic and inorganic matter is expressly produced by sedimentation, because of the valuable action of the latter in holding back the great majority of bacteria. A bad water filter is less desirable than pure water in its natural state. When, therefore, filtration is employed because of real danger of infection, the filtered water should, as a rule, be boiled, as the entire absence of sediment and cloudiness does not insure that the bacteria of disease have not made their way through the filter. The habitual drinking of boiled water would insure escape from sickness and death to thousands of the human race yearly.

CORRESPONDENCE.

AN IMPENDING ISSUE.

NEW YORK, October 16, 1889.

Editors AMERICAN ANALYST: As a constant and admiring reader of your weekly analysis of everything pertaining to man's physical needs and comfort, I desire to call your attention to a matter which, in my opinion, is one of the most important of man's needs—our schools. The Roman Catholic parochial schools in New York city, heretofore unable to obtain a share of the public schools funds, have taken a step of great importance by which they evidently think they can get hold of the school funds. All the parochial schools have replaced their teachers by graduates of the Normal College, and have adopted the public school curriculum—teaching their religious instruction afterwards. Most of the Catholic children have been withdrawn from public schools and put in the parochial schools, over six hundred having been taken from one school. What can this step mean but an insidious attack on our public school system?

TAXPAYER.

The question raised by our correspondent relates to a subject that, in our opinion, bids fair to become at no distant date one of the leading problems in our national politics. Its ultimate peaceful solution, if present signs do not fail, will depend upon a radical change of sentiment on the part of the element which, in the existing phase of the controversy, occupies the aggressive attitude—and of such change occurring there is unhappily no visible prospect or immediate probability. The argument of that side is simply this: the Catholics will not have the public schools; therefore the State must allow them their own educational system; and the day must come when the parochial school shall draw its support entirely from the State. This direct challenge we have seen stated in about the words we have used by the Roman Catholic organs in the explicit and uncompromising form known in logic as "the excluded middle." "The public must support our religious institutions," they say, "or we will make it do so." If that is not their meaning, then we fail to understand their language or conduct. The unreason of the thing is that, when the great majority of the public express their objection

to the State granting support to Catholic schools, as such, the minority set up the cry of "sectarianism." The patriotic and large-minded priest, Father McGlynn, paved the way to suspension from the priesthood by his earnest opposition to the efforts of his co-religionists to fasten their clutches on our school fund. The facts mentioned by our correspondent indicate clearly the subtle movement to that end that is constantly in operation, but which can never succeed—though possibly it may necessitate a severe rebuke of some kind to definitely end it.

CHAMPAGNE.

THE IMAGINATIVE FRENCH WINE AGENT AND THE UNSOPHISTICATED REPORTER.

One of the young men of the New York *Sun* has again fallen under the mystifying influences of a *great champagne importer*, as he styles him. He was evidently filled up in about equal proportions with champagne and ghost stories, the latter being retailed to his readers as gospel truths. According to this sapient youth, whose vaporings unfortunately escaped the proverbial office cat, the best condition for intellectual enjoyment is to be in the most receptive mood and calmest temper. No doubt he was receptive enough for the champagne, and his temper must have been considerably calmed, otherwise he could not have been so egregiously sold. The only thing the office cat seems to have gotten hold of was the name of this importer's favorite brand, which was chewed down to the generic description, a particular kind. Thus failed the direct advertising scheme of the aforesaid importer, which was probably the main object of ordering brut. The rest of the interview consists only in a stupid attack on every American wine, considerable falsehood about the character and quality of French wines, a tooting of trumpets about French wine makers' honesty, and a lot of rubbish equal to any of the absurdities with which Mr. Mumm, another alleged champagne maker, loaded up a *World* reporter. One of the statements made was: "There is not a quart of American product in the French clarets, cognacs, champagnes or burgundies that are imported in this country." If that is true, what becomes of the thousands of gallons of California wine, brandy and western high wines annually exported to Europe? "The trouble with American wine is that the land is too new," he said. This is richness, indeed. When we find nearly two-thirds of the vintage of France derived from American vines because of their ability to resist phylloxera, and when we well know that in California the best vines grow on lands that are absolutely so poor that they are useless for any other purpose and do not even grow weeds, it is simply ridiculous to read this prating about the land being too new. This sounds very much like the arrant nonsense another alleged French wine maker unloaded upon the verdant youth connected with another paper when he told him that the cuvet of all champagnes was a delicious and very high-priced still wine. As everybody knows, the cuvet from which champagne is made is disdainfully refused by French peasants when offered to them as a *vin ordinaire*. The only surprise is that these French champagne importers do not try to make newspaper men believe that the Spitzbergen apple flavor of one brand and the Jargonelle ether flavor of another, with the cognac and rock candy of all, are the results of a skillful fertilizing of the vine hills with Spitzbergen apples, Jargonelle pears, brandy or rock candy. Successful champagne making depends upon skillful blending and flavoring, while the popularity in selling largely depends upon the amount of money spent by the drummers. If this were not so, we would not find hundreds of champagne makers, whose brand is not known, selling their products in bottles to other and better known champagne makers to have their corks and labels put on a wine of which they know absolutely nothing but what tasting

can teach them. French champagnes are truly a prolific source of humbugging a gullible public. Any good, well made and natural American champagne, if it bore a popular French label, would be drunk without suspicion.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

November.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

BOILED BLUEFISH.—Make a rich dressing of rolled crackers well seasoned with pepper, salt, butter and sage. Stuff the fish and wrap it in a well-floured cloth, tie loosely or sew it up. Salt the water it is to be boiled in, put in the fish and place it where it will cook gently, allowing eight or nine minutes per pound.

SPICED TONGUE.—Make a mixture of half a pound of sugar, one tablespoonful of ground cloves, and a small bit of saltpeter, rub this well into a beef tongue. Make a brine of two quarts of water and three-quarter pound of salt, put the tongue in, being careful that it is entirely covered and let it lie for two weeks, then take it out and wash it well and dry with a cloth; roll out a thin paste of flour and water, wrap the tongue in it and put it in a pan to bake; bake slowly, basting well with lard and water; when done remove paste and skin and serve.

CAPER BUTTER.—Rub a tablespoonful of capers, finely chopped, through a sieve, with a wooden spoon; add one-fourth saltspoonful of pepper and one ounce of cold butter, one saltspoonful of salt. Put a layer of this under the fish to be served.

DELICATE CAKE.—Two cupfuls of sugar, three of flour, three-fourths of sweet milk, one half butter, and whites of six eggs; one and a half teaspoonfuls of Hoxford's baking powder, flavored with the grated rind of a fresh lemon; beat all the ingredients well and add the whites of the eggs the last thing.

SPONGE BREAD.—Boil six potatoes and mash them while hot; put to them two tablespoonfuls of butter and two of white sugar, and one quart tepid water; add three cupfuls of flour and after beating smooth add six tablespoonfuls of yeast, let it rise over night; in the morning knead in enough flour to make a spongy but stiff dough, knead for about fifteen minutes and then put to rise; when light knead for ten minutes, mold into loaves and when they have risen like sponge cakes, bake.

SAUCES FOR ROAST TURKEY OR FOWL.—1. Boil some veal gravy, pepper, salt, the juice of one Seville orange and one lemon, pour into a dish or boat.

2. Put a small piece of butter into a stewpan with some chopped parsley, one very small onion, thyme, mushrooms, and a few spoonfuls of gravy or brown stock. After slowly simmering them for almost a quarter of an hour, add a sufficient quantity of flour to imbibes all the butter, and continue stirring a few minutes over the fire. Then put to it a pint of stock; stir it well till it has boiled a little together; and taking it off the fire squeeze in some lemon juice and add a teaspoon-

ful of sifted sugar and a small quantity of pepper and salt to give it a more piquant flavor.

3. Egg sauce is made thus: Chop two hard-boiled eggs until quite fine, and put them into thin melted butter.

4. Put some grated breadcrumbs into a saucepan, and pour over them a little of the liquor in which mutton or fowls was boiled. When it has soaked, simmer with one small whole onion, white peppercorns, and a small piece of mace. When done, take out the onion, mace, and peppercorns, and add melted butter.

5. Stew two ounces of rice in milk, with one onion, white peppercorns, and a little sauce. When ready for use, take out the peppercorns and onion and rub through a colander. Heat this up with more milk and flavor it to taste.

FASHIONABLE TEA.

HOW THE 400 ARE SUPPOSED TO PREPARE THE
GENIAL CUP.

A pretty device for making tea Chinese fashion at the home table and at afternoon teas, and for serving delicate refreshment to callers, consists of a hollow ball of gold or silver about the size of a walnut, suspended from a finger ring by a slender chain four or five inches long. The ball divides in the middle, and the halves are hinged. It is perforated with innumerable holes. Sometimes it is made of gold or silver wire gauze. The hostess uses it in this wise: She opens the hollow ball, fills the halves with dry tea leaves, and clasps it shut. She then slips the ring from which it is suspended upon one of the fingers of the right hand. Filling a teacup with hot water, she lets the ball hang in the cup, and moves it back and forth and up and down until the water is colored to the desired strength. The strength of the tea, of course, depends upon the length of time the ball is dawdled in the cup. The little ceremony is much pleasanter to the eye than the old way of pouring out tea, especially if the hostess be graceful and have a prettily modelled hand and wrist. Moreover, it produces an immeasurably finer cup of tea than can be had by any other method. At afternoon teas the hostess sits upon her divan, with the trinket suspended from her finger, and makes the tea at a table by her side. The tea ball, as it is called, is moreover an encouragement to the custom, borrowed with it from the Chinese, of serving tea to callers—an adjunct to entertaining methods which is rapidly becoming popular. Hot water, of course, is always at hand, and this easy and graceful way of making the tea in the guest's presence forbids the suspicion that the hostess is putting herself to inconvenience in providing it. Besides being refreshing, the tea conduces to ease and sociability.

SAUCEPANS.

THE USE OF COPPER ONE SECRET OF THE FRENCH
COOK'S SUCCESS.

A Paris correspondent of the London *Truth* says: "English friends often ask me how it is that one gets in the humblest places in France appetizing and varied food and nice made dishes. My answer is: 'The French always cook in copper.' All meat, from veal to game, that is used in a made dish is first fried in butter, which can only be done properly in a copper vessel, because its heat is evenly diffused, and it does not grow rapidly very hot or cold. Butter melted in an iron vessel, even though it have a porcelain lining, soon blackens. Potatoes fried in butter in a copper saucepan take a beautiful golden tinge. In an iron one they get black. That glory of the French *cordon bleu*, 'canard aux navets,' would stick to the bottom of any but a copper stewpan, and get burned if not constantly stirred. Now, frequent stirring involves a loss of aroma. What

I have said of duck stewed in turnips applies to 'bœuf à la mode,' or 'poulet à la Marengo,' or shoulder of mutton braisé, or 'gibelotte de lapin.' When new to France, I set myself up with a *batterie de cuisine*, bought in Belgium. It was of iron, enameled, with blue without and with white within. Having one day invited a dozen or so friends to dinner, I secured the services of a chef. I shall never forget how, on being taken into the kitchen, he folded his arms and eyed the utensils with which he was to operate. 'You want, seriously,' he said, 'to lay before your guests a dinner which they will eat with pleasure?' 'Of course.' 'Well, as it is impossible to work with that *batterie de cuisine*, and it is too late to get another, I beg leave to go away. However, there is still time to order your dinner of Chevet or Potil and Chabot, if you make haste about it. The vessels you have are only fit to scald vegetables. *Et encore!*' In England there is an exaggerated fear of verdigris, which, however sickening, is really never fatal in its effects. But as the prejudice is strong, it might be well for manufacturers to guarantee absolute safety by using nickel instead of tin for lining. Nickel hardly ever wears out, and is easy to keep clean."

THE DIAMOND.

SPECULATIONS OF SCIENTISTS AS TO ITS PROBABLE
ORIGIN.

The origin of the diamond has been a fruitful topic for speculation among scientists; hence many contradictory theories have been advanced and argued with some show of reason; but after all that has been said and written upon the subject, we are still left pretty much in the dark. Theories answer a good purpose, since they often lead the way to truth. But this is not all; they illustrate the ingenuity in the human mind in seeking to account for the methods Nature takes for the accomplishment of her secret operations. Some of these theories about the origin of the diamond are very ingenious and interesting, though the amount of truth they embody remains to be proved. It has been suggested that the vapors of carbon during the coal period may have been condensed and crystallized into the diamond; and again, the itacolumite, generally regarded as the matrix, was saturated with petroleum, which, collecting in nodules, formed the gem by gradual crystallization. Newton believed it to have been a coagulated, unctuous substance, of vegetable origin, and was sustained in the theory by many eminent philosophers, including Sir David Brewster, who believed the diamond was once a mass of gum, derived from certain species of wood, and that it subsequently assumed a crystalline form. Dana and others advance the opinion that it may have been produced by the slow decomposition of vegetable material, and even from animal matter. Burton says it is younger than gold, and suggests the possibility that it may still be in process of formation, with capacity of growth. Specimens of the diamond have been found to inclose particles of gold—an evidence, he thinks, that its formation was more recent than that of the precious metal. The theory that the diamond was formed immediately from carbon by the action of heat is opposed by another, maintaining that it could not have been produced in this way, otherwise would have been consumed. But the advocates of this view were not quite on their guard against a surprise, for some quick-witted opponent has found by experiments that the diamond will sustain great heat without combustion.

WATER GAS ECONOMY.—Recent foreign experiments at Witkowitz, Austria, show that a furnace run with water gas requires only 58 per cent. of the heat which is needed for a furnace fired in the usual way.

A HEAVY STRAIN.—"I'm in the oil business," he explained. "I sometimes handle as much as ten thousand barrels of crude in a single day." "Is it possible!" she responded. Ten thousand? It must make you very tired."—*Harper's Bazar*.

A SENSIBLE MEASURE.

A PROPOSED LAW TO FIX THE RESPONSIBILITY FOR
FOOD ADULTERATION.

During the last session of the New Jersey Legislature a bill to provide for the protection of retail merchants in cases of prosecution for the sale of adulterated food, where said food is purchased with honest intent, was introduced in the Senate and passed that body, but the Assembly failed to act upon it. At the recent meeting of the Committee on Legislation of the State Association it was decided to introduce the bill at the opening of the next legislature. This measure, which we reprint from the *New Jersey Trade Review*, affords adequate protection to the retail trade, provided they take care to purchase only on a warranty of the purity of the goods. The following is the text:

AN ACT

TO PROVIDE FOR PROTECTION BY WARRANTY IN CERTAIN
CASES.

1. BE IT ENACTED, by the Senate and General Assembly of the State of New Jersey, That any person accused, before any court, of selling or offering for sale any article adulterated within the meaning of an act entitled "An act to prevent the adulteration of food or drugs," approved March 25, 1881, and the supplement thereto, or an act entitled "An act to prevent the adulteration and to regulate the sale of milk," March 24, 1882, and the supplements thereto, who shall prove that he procured such article under a warranty, in the form hereinafter set forth, that said article was pure and unadulterated within the meaning of said acts, said person shall be discharged from prosecution; provided that such proof in defence shall be filed in court prior to the trial of such case and a copy thereof left with the attorney for the prosecution of the case.

2. And be it enacted, That no warrants shall be considered as within the meaning of this act unless in the form hereinafter given, and unless the article or articles warranted shall be specifically named and described in the body of said warranty; and no warranty shall be a defence if the said person offering it shall have been notified prior to the sale complained of that the articles mentioned in said warranty, are adulterated within the meaning of said acts.

3. And be it enacted, That any person uttering or giving a false warranty or swearing falsely in relation thereto shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not more than five hundred dollars or imprisonment at hard labor for not more than one year, at the discretion of the court.

4. And be it enacted, That the warranty herein provided for shall be in the following form, to wit:

WARRANTY.

It is hereby warranted that the following described article or articles ——— are pure and unadulterated within the meaning of the acts of the Legislature of the State of New Jersey, regulating the sale of food, milk or drugs.

Signature ———.

Dated at ———, this ——— day of ———, A. D. ———.

5. And be it enacted, That this act shall take effect immediately.

EXOTIC FRUITS.

INTRODUCING INTO THE UNITED STATES THE FAVORITE
FRUITS OF FOREIGN LANDS.

The United States government is making earnest efforts just at present to introduce new and improved fruits from tropical lands into the United States, and messages are being sent from the Agricultural Department to the farthest corners of the earth, requesting small consignments of seeds and plants, such as are likely to make luscious additions to Uncle Sam's orchards and plantations. About the middle of October, the first importation of named varieties of cocoanuts ever received in this country reached Washington from the Philippine Islands; five distinct kinds the consul at Manila sent with their proper designations attached, and fourteen more kinds unclassified. They were sent at once to Lake Worth, Fla., for planting and cultivation. From Turkestan and Bokhara, too, seeds are shortly expected of certain superb varieties of peaches that

shall be proof against that destructive disease of the fruit in this country, the "yellows." Grafted trees have been ordered, also, of the famous mangosteen, from Southern China—the finest of all tropical fruits, as the people in south Asia think. Though grown in India it has never been brought hither, nor even to England, owing to its perishable quality, though frequent efforts have been made to convey specimens to the queen. It is of medium size, roundish and of most delicious sweet flavor. It has a delicate yellowish pulp. Southern China is also being drawn upon for grafted trees of the mango, and a new Japanese fruit called the "myrica rubra," small and shaped like an olive, has just arrived. Six varieties of the banana, from the Philippine Islands, should not be forgotten, and most important of all is the persimmon, desirable samples of which are to be brought from Japan and particularly hardy ones from Korea, such as may be able to stand the climate far north on this continent. Nearly all these fruits are strictly tropical, and so they will be sent, or have been sent already, to Lake Worth, which is so far south in Florida that frost never touches it, there to be propagated from, so that it may be discovered how profitable it will be to cultivate them on American soil. There are more queer fruits already grown in this country, than are probably dreamed of. For instance, there is the pomegranate, which grows on a bush and is semi-tropical. In ancient days it seems to have been much prized, but nobody cares for it nowadays, though it grows abundantly in California and the Gulf States. The date bears well in Southern California, Arizona and New Mexico, and it is only a question of time when its cultivation will become a great industry in this country. The tree is a very beautiful one, with bluish-green leaves, all growing from a single stem, with a central bud at the point of the leaves' outspringing, where hang great clusters of the yellow dates, as sweet as honey to the taste. The date needs very peculiar conditions for its growth. The soil must be rich and very moist about the roots of the tree, while the air must be exceedingly dry. Of course, then, it is easily cultivated in any dry climate where water can be supplied to the roots by irrigation. The fig, like the date is semi-tropical, extending up to the Carolinas and running around the Gulf coast, where it is largely grown to California. The raising of this fruit is becoming an extensive industry in California, where the best authorities think its cultivation has a gigantic commercial future. It grows there no better than on the Gulf, but in the latter region there is not the climate necessary for natural drying, and artificial drying in evaporators is costly. Among strictly tropical fruits, which technically include all those that will not stand a touch of frost, are, to begin with, the coconut which is largely grown in southern Florida. There are already five thousand trees in bearing at Lake Worth alone, and orchards are found from Jupiter Inlet down to Key West, and up the west coast as far as the Caloosahatchie. The guava is extensively grown in Florida, in the Indian River region and on the west coast, particularly in the neighborhood of Tampa and Manatee. It is a soft little fruit, too perishable to reach Northern markets, save in the shape of jelly and marmalade. The tamarind is found nowhere in the United States, except at Lake Worth. It resembles a small greenish bean, curled up, and grows upon a very ornamental tree with pinnated foliage.

AMBERGRIS AND AMBER.

THEIR NATURE, ORIGIN, AND COMMERCIAL USE.

Ambergris, which is used as a basis for nearly all standard perfumery, was first found an unattractive mass floating on the surface of the sea or lodged upon the shore. How so unlikely a substance ever suggested itself as a perfume is unknown, but it has been in use for centuries, and it is only in comparatively recent times that its origin has become known. It is nothing

more than the morbid secretion of the liver of a sick spermaceti whale. It is described as a fatty, waxy substance, disagreeable to sight or touch, but even in its crude state exhaling a pleasant odor. The crude substance is subjected to chemical action to extract the active principle, called amberine. It was recently reported that a Maine fisherman picked up a mass of the substance which nearly filled a barrel, and is worth \$25,000. This is probably an exaggeration both as to size and price, for the largest piece on record was found on the Windward Islands, weighing 130 lbs. This was sold for about \$2,600. Amber was also first found on the shores of the sea after severe storms. For a time its origin was unknown, but it was early put to use and regarded with a superstitious awe by the ancient Greeks and Romans, its peculiar electrical qualities being noted by them. It is now thought to be the gum of forest trees which perished ages and ages ago, the lands upon which they flourished having become the ocean's bed. Amber has no fixed value, the price being regulated wholly by size, quality and other considerations. Drops of amber in which are embedded insects of those ancient times command fancy prices, while the more common kinds are used for making a certain kind of varnish and even in medicine. The world's supply of the two, amber and ambergris, does not wholly depend on what may be accidentally found. Dredging for amber is now systematically carried on by regularly organized companies, and all spermaceti whales killed by whalers are subjected to a pretty thorough post-mortem examination, the find of ambergris in the monster's interior often being vastly more valuable than the oil extracted from his blubber overcoat.

A COMPREHENSIVE CYCLOPEDIA.

The seventeenth volume of Alden's *Manifold Cyclopaedia* extends from Gogo (a town and seaport of British India) to Haliography (a description of the sea), and compares favorably with its predecessors in its skillful editing, handy form, excellent typography and binding, and its remarkable economy in cost. The publisher formerly announced the work to be published "30 or more volumes;" now it is definitely promised to be completed in 40 volumes, and they are promised hereafter at the speed of at least one volume a month, which is very rapid for good work. While in magnitude the *Cyclopaedia* compares closely with Appleton's or Johnson's, and is considerably larger than the latest edition of Chambers's, it is vastly more comprehensive than either of them. Besides covering the usual ground of a universal Cyclopaedia, it includes also an unabridged dictionary of the English language, every important word to be found in Webster's or Worcester's, and not a few besides which have grown into the language since their latest revision. Considering this comprehensiveness and its editorial and mechanical excellence, its price is hardly less than marvelous, the first seventeen volumes in cloth binding being offered for \$8, or for \$11.40 in half morocco. This price is gradually advancing as the publication progresses, earlier patrons of the work being considered entitled to more favorable rates than those who come later.

FRANK SIDDAL'S SOAP.—This extensively advertised soap is one of several hundred similar soaps manufactured throughout the country, and generally known as cold-process soaps. They are neither good nor economical. It is an improvement on the old-fashioned boiled soaps only in that it is very much cheaper. They are very nearly all alike in their component parts. Tallow, coconut oil, caustic soda, silicate of soda (a cheapener), and so-called mineral soap stock. This latter is only the residue of coal oil stills and is very cheap, giving the soap a soft, smooth appearance. Very little machinery is necessary in making such soap; it does not shrink and costs only about five cents per pound for material, labor and all. The most costly part of Frank Siddal's business is his advertising.

Subscriptions \$1 per year Now is the time to subscribe.

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

RECOGNIZED THE NOTES.—Pat (in gaping wonder at the letters on a Hebrew butcher's sign): Here, Mike, 'tis yerself has the foine l'arnin'. Can yez rade that now? Mike: I cannot; but if I had me flute here I belave I cud play it.

UTILIZING SEWAGE.—The whole of the sewage of Paris will soon be used for the purpose of market gardening. Gennevillier now absorbs and purifies a third of the Paris sewage water. Achires and Mery will soon utilize the rest.

HE DID. Miss Beacon (of Boston)—Do you never feel an insatiate craving for the unattainable—a consuming desire to transcend the limitations which hedge mortality, and commune, soul to soul, with the spirits of the infinite? Omaha man—Ye-es. Kinder.

PURCHASING AN AILMENT.—Actress—Doctor I don't feel as if I could possibly go on the stage to-night. Doctor—What, madam, seems to be the matter with you? Actress—Oh, I don't care much, Doctor. Give me the worst ailment you can for a hundred dollars.

TO PREPARE A MUSTARD PLASTER.—Mix the mustard with the white of an egg, instead of water. The result will be a plaster which will "draw" perfectly well but will not produce a blister, even upon the skin of an infant, no matter how long it is allowed to remain upon the part.—*Medical Classics*.

GOOD STYPTIC.—There is nothing better for a cut than powdered rosin. Pound it until fine and put in an empty clean pepper box with perforated top, then you can easily sift it out on the cut, and put a soft cloth around the injured member, damping it with cold water once now and then. It will prevent inflammation and soreness.

HYDRAULIC BRICK.—A new hydraulic brick is now manufactured in eight different shades of red and brown which, on cheap houses, is designed to supply the place of brownstone or sandstone for trimmings. The shades of color run from a rather dark brown to a reddish hue, and at a superficial glance might well be taken for the stones the places of which they supply.

DELICATE WORK.—A process of engravings on glass crystal by electricity has been communicated to the French Academy of Science by M. Plante. The plate to be engraved is covered with a concentrated solution of nitrate of potash and put in connection with one of the poles of the battery, and the design is traced out with a fine platinum point connected to the other pole. The results are said to be of marvelous delicacy.

GRAPE SYRUP.—A syrup is being manufactured in California containing seventy-five per cent. of saccharine matter. This syrup is made by concentrating grape juice in a vacuum pan. One ton of grapes yields 160 gallons of juice, which is reduced to one-fourth of its bulk. At the price which this syrup ought to bring, it seems a good outlet for the overproduction of grapes. Mission and Malvoisie grapes principally are used.

DELICATE SOLDER.—An account is given in a German paper of a soft alloy which adheres so firmly to metallic, glass, and porcelain surfaces that it can be used as a solder, and which, in fact, is valuable when the articles to be soldered are of such a nature that they cannot bear a very high degree of temperature, the composition consisting of finely pulverized copper dust, which is obtained by shaking a solution of sulphate of copper with granulated zinc.

BUSINESS NOTES.

FOR NERVOUSNESS

Use Horsford's Acid Phosphate. Dr. W. C. Hanscome, Minneapolis, Minn., says: "I used it in a case of acute rheumatism, during convalescence; the particular symptoms I wished to relieve were sleeplessness and nervousness, and the results were all I desired."

PENS AND POTATOES.

In using new steel pens the ink sometimes will not flow readily. This can be avoided by sticking the pen into a potato. Try it the first Esterbrook's Pen you use.

CATARRH
HAY FEVER
CATARRHAL
DEAFNESS

A NEW TREATMENT.
Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been discovered which permanently cures the most aggravated cases of these distressing diseases by a few simple applications made (two weeks apart) by the patient at home. A pamphlet explaining this new treatment is sent free by A. H. Dixon & Son, 337 and 339 West King Street, Toronto, Canada.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME OF
ON LABEL, AND GET THE GENUINE

Stewart Hartshorn

HARTSHORN

THE VIBURNUM COMPOUND

OF

DR. HAYDEN,

THE STANDARD IN

FEMALE DISORDERS.

Employed in the leading Hospitals, and prescribed daily by the most eminent Gynecologists. *Five Thousand Physicians* have given their testimonials for **HAYDEN'S VIBURNUM COMPOUND**.

DISPENSED BY ALL APOTHECARIES.

ESTERBROOK'S STEEL PENS

Leading Numbers

14,048,128
130, 135,
333, 161.

For sale by all stationers.

THE ESTERBROOK STEEL PEN CO., 26 John St., N. Y.

WORKS: CAMDEN, N. J.

THURSTON'S
VERY PEARL TOOTH POWDER

WILL KEEP THE TEETH IN PERFECT CONDITION AND THE GUMS HEALTHY.

Price 25 & 50 Cents PER BOTTLE

Robinson's Sura Cure
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
 And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.
R. W. ROBINSON & SON,
 184 Greenwich Street,
 NEW YORK.



FACIAL BLEMISHES
 The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.
JOHN H. WOODBURY, Dermatologist, 125 West 42d Street, NEW YORK CITY, N. Y.
 P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

JOHNSON LOCKE MER. CO.
 Shipping & Commission Merchants,
SAN FRANCISCO, CAL.

Agency at **PORTLAND, ORE.** Agency at **LOS ANGELES, CAL.**

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins, Walnuts, Almonds, Dried Grapes, Borax, Barley, Mustard Seed, Salmon, Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

❖ PICTURES. ❖

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON, PASTEL, WATER-COLOR, OIL, OR INDIA-INK,
 at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
 47 West Twenty-Second St., New York.

LEA & PERRINS' SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GENTLEMAN at Madras, to his brother at WORCESTER, May, 1851.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most wholesome sauce that is made."



SOUPS, GRAVIES, FISH, HOT & COLD MEATS, GAME, WELSH-RAREBITS, &c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.



The Edge Hill Wine Co.,
 10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.
STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

THE AMERICAN ANALYST.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE

SEE VARIOUS PREMIUMS OFFERED.

WHOOPING COUGH CURED

Or Prevented by Page's Vaporizer and Cresolene.



We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for Whooping Cough, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

SCOTT'S EMULSION

OF **PURE COD LIVER OIL** WITH

HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects.

Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and receives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—unequalled by any single or combined remedy in existence. The rapidity with which delicate children fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.

UNEQUALLEDAsk your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.**DELICIOUS**

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.**BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.**

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.**SWIFT'S**

CHOICE

Chicago Dressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,**UNION STOCK YARDS,****CHICAGO, ILLS.****A BUSINESS BENEFIT.**

ADVANTAGES TO ADVERTISERS OFFERED BY THE AMERICAN ANALYST.

It has not the limitations of a daily paper. No one reads yesterday's paper. A monthly lives at least a month, while a semi-monthly is fresh twice a month, and its audience is not limited by geographical lines, but the circulation is all over the United States and Canada.

It contains matters of interest to everyone, especially the ladies of the household, and is, therefore, sure of a careful perusal. Our audiences are intelligent and of the better classes, who have money to spend, and any well worded advertisement in our columns, giving real information, will receive a careful perusal.

Our rates are as low as our circulation affords. Large circulation and original matter cost money, and those advertisers who desire to realize these benefits must expect to pay reasonably for them.

Advertisements in our columns are permanent. Most of our subscribers bind their numbers.

Our advertisements are set up in an attractive form, sure to call the attention of the reader.

Anything that our readers want, or for which a demand is to be created, not wholly of a local nature, will pay to advertise with us.

We take only advertisements from legitimate houses of really meritorious goods, and give them all the editorial assistance they deserve; consequently our readers knowing this, have confidence in advertisements contained in our columns.

The fact that we have the best and largest houses in every branch of trade advertising with us, and that they always renew as their seasons arrive, proves beyond a doubt that they have found the **AMERICAN ANALYST** a good advertising medium. Why should not you?

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price.	Price including Analyst.
American Rural Home.....	\$1 00	\$1 50
American Agriculturist.....	1 50	1 60
Art Amateur.....	3 50	4 00
Arthur's Home Magazine.....	1 50	2 00
Art Interchange.....	3 00	3 25
Babyhood.....	1 50	1 60
Ballou's Magazine.....	1 50	1 75
Cassell's Family Magazine.....	1 50	1 75
Century.....	4 00	4 25
Christian Herald, N. Y.....	1 50	1 50
Christian Union.....	3 00	3 10
Cosmopolitan, N. Y.....	2 40	2 50
Cottage Hearth.....	1 50	1 50
Country Gentleman.....	2 50	2 50
Current Literature.....	3 00	3 00
Demorest's Magazine.....	2 00	2 10
Family Story Paper.....	3 00	3 00
Farm and Fireside.....	50	1 00
Fireside Companion.....	3 00	3 00
Forum.....	5 00	5 00
Frank Leslie's Illustrated Newspaper.....	4 00	4 00
Frank Leslie's Popular Monthly.....	3 00	3 00
Godey's Lady's Book.....	2 00	2 25
Golden Days.....	3 00	3 00
Good Housekeeping.....	2 50	3 00
Harper's Bazar.....	4 00	4 00
Harper's Young People.....	2 00	2 25
Harper's Weekly.....	4 00	4 00
Harper's Monthly.....	4 00	3 60
Household.....	1 10	1 35
Housekeeper.....	1 00	1 25
Ladies' Home Journal, Philadelphia.....	1 00	1 50
Ledger, N. Y.....	3 00	3 00
Lippincott's Magazine.....	3 00	2 50
National Tribune, Washington.....	1 00	1 50
New York Weekly.....	3 00	3 00
Our Day, Boston.....	2 00	2 50
Our Little Ones and Nursery.....	1 50	1 75
Outing, N. Y.....	3 00	3 00
Peck's Sun.....	2 00	2 25
Peterson's Magazine.....	2 00	2 00
Popular Science Monthly.....	5 00	4 75
Puck.....	5 00	4 50
Rural New Yorker.....	2 00	2 30
Saturday Night, Philadelphia.....	3 00	3 00
Saturday Evening Post, Philadelphia.....	2 00	2 00
Scientific American.....	3 00	3 25
Scribner's Magazine.....	3 00	3 00
Vick's Illustrated Monthly.....	1 25	1 60
Wide Awake.....	2 40	2 60
Yankee Blade.....	2 00	1 50
Young Ladies' Journal, English Edition.....	4 00	3 50
Youth's Companion.....	1 85	2 25

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,**19 PARK PLACE, NEW YORK.****BETTER NEWS TO LADIES**

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40 cts. Excellent Family Teas 50 & 60 cts. Very Best 65 to 90 cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea: For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.)



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

To Subscribers, Readers and Advertisers.

SUBSCRIBERS' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our Subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The CASUAL READER is specially requested to examine our liberal premium offer.

ADVERTISERS who do not know of this Journal already, are respectfully referred to article headed "A Business Benefit."

ALL are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any news-dealer will take orders for it, the American News Company being our wholesale agents. All post-masters will receive subscriptions.

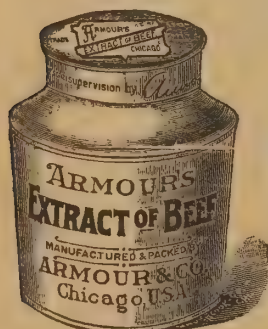
DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

UNITED STATES DEPARTMENT OF AGRICULTURE.
Washington, D. C.

By an analysis of Dr. Price's Cream Baking Powder I find it carefully compounded, and I regard it as the best baking powder in the market in every respect.

PETER COLLIER,
Late Chemist of the United States Department
of Agriculture.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,
And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

See Clubbing Rates of AMERICAN ANALYST with Medical Journals, and study their advantages.

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.

—GLENN'S— SULPHUR SOAP.

Physicians know the great value of the local use of sulphur in the Treatment of Diseases of the Skin.

Glenn's Sulphur Soap is the Original and Best combination of its kind, and the one now generally in use. For sale by All Druggists.

Beware of Counterfeits.

Wholesale Depot,
C. N. CRITTENTON,
115 FULTON STREET,
NEW YORK.

Samples of above Soaps SENT FREE on application.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 46.

NEW YORK, THURSDAY, NOVEMBER 14, 1889.

WHOLE No. 142

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

California Industries.—Continued.....	544
City of the Future.—Complete Story.....	542
Domestic Dietetics.....	545
Editorials.....	541
Electric Homicides; Infant Foods; Government Meat Inspection; Food Adulteration; German in the Pub- lic Schools.....	544
Electricity.....	544
Geological Mysteries.....	543
Meals, Ready Made.....	545
Musical Instruments.....	545
Watches.....	544

ELECTRIC HOMICIDES.

The repeated fatal accidents that have occurred recently in this city from contact with electric-light wires have impelled Mr. Thos. A. Edison to publish a paper on the subject that is not only valuable from a scientific standpoint, but clearly exposes the moral causes which yield so large an amount of mortality. Mr. Edison shows that there are four different currents in use, of which only one is harmless. This one is a low tension current; the other three are high tension, and are all dangerous to life. "The first," he says, "is harmless, and can be passed through the human body without producing uncomfortable sensations." This is the current employed in the incandescent lamps. "The second," he continues, "is dangerous to life. Momentary contact with the third, results in paralysis or death, and the passage of the fourth, or alternating current, through the living body means instantaneous death." It is a terrible condemnation of the companies which use the dangerous currents, when it is learned from Mr. Edison's positive assertion that neither of them is a necessity. "There is no plea," he states, "which will justify the use of high tension and alternating currents

either in a scientific or commercial sense." The necessary inference from this statement is that the companies under whose management so many deaths occur are constructively guilty of manslaughter, and possibly of murder. The sole reason why these dangerous currents are employed is the economy of copper wire. "The high currents are employed to save investment in real estate as well as copper," says the scientist. The wires are so small that tremendous pressure is required to force the currents through them over the long distances which they supply. With heavier wires and shorter circuits all danger would cease. Mr. Edison throws much light on the mooted question of underground wires. He scouts the idea that the system would be safer; on the contrary, he insists that the element of danger would be materially increased. This arises from the fact that the wires in the present system of conduits would form "earth contacts," and there would be a "fusion of wires, and the formation of powerful electric arcs, which would extend to other metallic conductors in the same conduit, and a whole mass of wires made to receive this current and conduct it into houses, offices and stores." The authorities of New York are sparing no effort to force the lighting companies to place their wires underground. The verdict of Edison is that this will increase the perils of the system. "The public may rest absolutely assured that safety will not be secured by burying these wires. The condensation of moisture, the ingress of water, the dissolving influence of coal gas and oxidation upon the various insulating compounds will result only in the transfer of death to man-holes, houses, stores and offices, through the agency of the telephone, the low-pressure systems, and the apparatus of the high-pressure current itself."

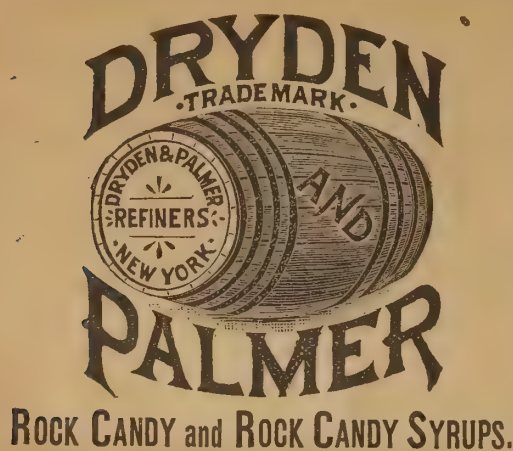
INFANT FOODS.

At the recent Montreal meeting of the American Association for the Advancement of Science, Dr. Fred'k Hoffmann spoke about the food preparations now so largely used for infants and children as substitutes for mother milk and other food. According to reliable estimates, the quantity of such artificial food annually consumed in the United States amounts, in money value, to about \$8,000,000 to \$10,000,000. The problem of artificial food for the rising generation, and particularly during the first period of its struggle for life and survival, is a very important one, not only to the state, the commonwealth and the family, but also to the sanitarian and the chemist. These artificial foods mostly claim to be perfect; a few have been analyzed by independent chemists, often with questionable accuracy or results, whilst many are of unknown composition. Many of such food preparations are evidently manufactured without due consideration to physiological and chemical principles in regard to the proper constituents and proportions of the true nutrient elements of food. Any such deficiencies or worthlessness are of much greater harm than similar shortcomings in foods and food luxuries of the adult popula-

tion. In consideration of the importance of this matter, such artificial food preparations should henceforth much more engage the interest of all authorities and sanitarians and receive more attention on the part of analytical chemists. It is particularly desirable that the chemists in the United States Agricultural Department, into whose domain this problem belongs, should take up the analysis of the ever-increasing class of food preparation mostly used for infants, children and reconvalescents. The speaker stated, in conclusion, that Professor Wiley, chief of the chemical laboratories of the United States Agricultural Department, has authorized him to state that the department will at once commence with the work of investigation of artificial foods.

GOVERNMENT MEAT INSPECTION.

With the waning year departmental reports are in order. The first received is that of the National Department of Agriculture, which, likewise, is the first report ever issued from that newly-constructed branch of the Government. The document bears testimony to the careful and intelligent study Secretary Rusk has given to the question of our agricultural interests, and his recommendations seem to be generally wise and commendable. The particular point in which the readers of the AMERICAN ANALYST are most interested is that in which he advises the establishment of a system of Government meat inspection, the adoption of which by Congressional legislation will probably meet with the approval of both producer and consumer—of everybody, in fact, excepting the clique of retail agitators who have been stultifying themselves during the past year in an effort to subordinate the entire meat interest of the country to their own personal pecuniary advantage. The language used by the Secretary in regard to a national meat inspection law is pointed and vigorous. The necessity for inspection at the time of slaughter is, first, to enable the authorities to locate promptly any centres of cattle diseases, and, secondly, to avoid the anomaly of leaving the inspection of our own meat products to the officials of other countries, thus giving foreign Governments some show of reason for the claim that they have better opportunities for learning of disease among American cattle than are enjoyed by our own Government. He accordingly advocates "such an amendment to the law under which the bureau is at present organized as will provide for such official national inspection as shall guarantee the fitness of our meat products for food consumption under the seal of the United States Government." Authority and means are also desired to enable the department to exercise a close supervision of the economic side of the cattle markets, the characteristics of stock commanding the highest price, variations as to age, weight and quality, and all facts bearing upon the cattle industry which will enable the bureau to supply to farmers such information as it is impossible for them to obtain for themselves. The Secretary recommends that the disease experiment station be removed to the Arlington estate, and be equipped



For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

DRYDEN & PALMER,
19 Hudson St., New York.

with all the laboratory and other scientific aids essential to successful investigation of diseases. The United States must not, says the Secretary, be behind any other country in this work. "Indeed," he adds, "this country ought to lead all others." A series of works is promised on animal diseases, giving a systematic statement of the current knowledge on the subject in popular form.

FOOD ADULTERATION.

They have come to the conclusion "Down East" that if the National Pure Food Association is not dead, it sleepeth. From all parts of New England come complaints of adulterated molasses, cod-fish, bogus lard, mixed spices, and so through the list. The agitation of the subject about the time of the formation of the association is about all the public have heard of it, and many who were then prominent in the movement now state that it is practically a dead issue. The remarks, in a recent issue of the Boston *Daily Advertiser*, upon the subject are pertinent. It asks why this is so: "Have the manufacturers and jobbers of food and drug products been acting a part, and having stood forth prominently as advocates of pure food gone back quietly to the old practices? Certain it is that the sophistication of food is prevalent in all parts of the country, even in our own State which stands relatively high, in the character of its food market. Preparations are already well in hand for introducing and pushing before the next Congress a measure to correct the lard evil, and the time would seem ripe for the reawakening of the Pure Food Association. As urged by it, what is needed is not special legislation to correct an evil here and there, but a general measure that shall secure the honest representation and sale of the food and drugs in our interstate and export trade, thereby protecting the home market and re-establishing confidence in such American products abroad."

GERMAN IN THE PUBLIC SCHOOLS.

The question as to the expediency of discontinuing teaching the German language in the public schools of this city is again under discussion, and while the Board of Education has not yet given official expression to its views on the subject it is generally regarded as favoring the abandonment of that branch of study. The discussion is invested with greater importance from the fact that from ten to twenty thousand children are excluded from schools for lack of accommodations. As most of these are the younger pupils, many of whom have never yet been in any school, the sentiment is growing rapidly in the direction of cutting off all unnecessary expenditure in order to give those young-

sters a chance to make at least a beginning in the process of obtaining their education. The question has not been very widely discussed in the newspapers as yet, but the little that has been indulged in indicates that the press quite generally favors the abolition of German as a study in the common schools. Among other things which contribute to make the proposition stronger is the fact that it is very badly taught. While the great number of Germans in New York render the German language very important to many business people, it is found in practice that the amount of it attained in the schools is not sufficient even to start the pupil well on his way toward a practical knowledge of the language. The probable outcome of the discussion is the entire abandoning of the teaching of German or any other modern language in the public schools, at least until the board of education has been able to provide facilities sufficient to accommodate all the pupils of the city in schools where they care to attend them.

A CITY OF THE FUTURE.

A UTOPIAN VISION OF A REMOTE SOCIAL POSSIBILITY.

In the year 2029 the leading Vanderbilt of his time came into his fortune. He had received a remarkable education, and one which the nineteenth century would have considered impossible. Without going into details, young Vanderbilt was evenly developed, physically, mentally and morally. He had been so educated that he found happiness in the full and constant use of his money and his brains for the good of humanity. But he was pre-eminently practical—a purified and perfected type of one of the industrial kings of the nineteenth century. He lived in a cottage in the hills, and he thought out his plans in long walks under his trees. He was the richest man in America, and yet he had as much freedom as any plain farmer. To sum it all up, he had become, without knowing it, the most unselfish and at the same time the most patient and persistent of living men. The friends he had were not numerous, but each one of them was capable of great things. And he and his wife understood each other in that complete way which happens once in a thousand or so. Remember, I am not trying to tell you how it all came about, because that would make a volume. Briefly, Vanderbilt wished to build a city, more pleasant and better to live in than any the world had yet seen. He wanted to see whether such a city could be established under new conditions of social and industrial life, and in such a way that the enormous capital he proposed to invest could be restored unimpaired at the end of a term of years. The site which was chosen for the city of Arachne was in a sheltered and fertile part of the great valley plain of California, which extends from Shasta to Tehachapi. The floor of the valley at this point was a sloping plain, looking west, with tree-clad foothills east, and hundreds of great oaks scattered here and there, like the ancestral oaks in the heart of England. The region was chiefly occupied by large wheat farms. Vanderbilt was able to purchase, through agents, a tract of land nearly twenty miles square. Then he sent for his engineers.

"What I want," he said, "is a city capable of indefinite extension. The plan is to be based on the web of the geometric spider. Streets, sewerage, water, light, transportation and the other requirements of this Utopia are to be perfected as far as the science of the day will permit."

The engineers made their report. It was a wonderful situation, they said. There was natural gas underlying the valley; water could be brought from the Sierras; railroads from all parts of the continent could centre in the heart of the city; commerce could occupy miles of wharves—if only people chose to come and live in Arachne. Then Vanderbilt sent for several great landscape gardeners to work with the engineers, and he and his wife went with them over the valley, the golden foothills and the sea-green tule lowlands by the sloughs.

As the work went on, so broad and beautiful were the plans developed, so magnificent the scale of operations, that the interest of the country was aroused, and many persons wished to buy and live in the as yet unbuilt city; but the reply sent out was: "Not yet. Wait until we are ready." The landscape gardeners said: "With this soil and climate every home can have its garden and every street can be an avenue of shade and fragrance. All the trees of the temperate zones, and many of the tropics, can thrive here, so we will have no street less than a hundred feet wide, and some of our great avenues shall even be a hundred and fifty feet across, and planted with date palms and magnolias, for twenty miles into the country. We shall lay out public squares on every street and two great parks, one on the lowlands by the river, another on the foothills which look down on the city. We shall so arrange our squares as to preserve the best of the oaks, sycamores and other trees of the valley. And, when the city is built, one of its officers shall be a city forester, educated and efficient, to preserve and develop all this beauty of streets, squares and parks." And that winter they planted miles of avenues and hundreds of acres of forests. There were four hundred specimens of deciduous trees, forty-eight species of broad-leaved evergreens and one hundred of conifers chosen to plant on the streets. Some streets had one row of trees down the centre; others had two rows near the sidewalks. The great parks were to be not only pleasure grounds, but also arboretums. A belt of forest, a mile wide, across the valley, was planted to protect the city from the occasional northers. The engineers arranged to have all the sewers of the city unite at the edge of a tule marsh, by the river, five miles beyond the city's possible extension, and there their contents were to be heated in vast furnaces, dried, ground to powder, and sold for fertilizers to farmers the world over. They arranged for water and natural gas for cooking and lighting, to be piped into every house, free to the consumer. They arranged for cable cars up and down every street and avenue, all managed by one system. They laid out the city so that every lot, besides fronting on a street, ran back to a twenty-five-foot alley, and they arranged for a freight cable system on all these alleyways. They arranged for telegraph, telephone and phonograph connections throughout the entire system. Railroad men in those days had come to run cars without smoke or noise, by electricity, and it was easy to arrange for the approach of all trains by two broad, sunken avenues, one north, the other south, over which the streets crossed. These avenues led to the centre of the city, where a union depot, the great public buildings and the offices of all the departments of public works were situated.

It would be too long a story to explain further the physical details of the system of organization, in which beauty and utility were joined in perfect union. When the time came, there appeared one morning in every newspaper in the United States an announcement: "Lots for sale in Arachne, to actual settlers. Two hundred and fifty million dollars have already been invested here, and sales will be so conducted as nearly to restore this capital intact, at the end of twenty years to the original investor. The object of this experiment is not money-making. Those who cannot read and write had better not come to Arachne, as the charter which it is hoped will be adopted does not allow such to vote at city elections. Copies of the proposed charter mailed to all applicants."

Within a year Arachne was a city. Vanderbilt and his friends succeeded in obtaining their charter, which could not be altered except by a three-fourths vote of the citizens. This charter was the most important part of Arachne, and so I will give a synopsis of some of its provisions. As Vanderbilt stated at the public meetings of the twenty or thirty thousand voters who finally adopted it, almost as it was written: "It is intended, in this charter, to give intelligence, thrift, and honesty the controlling power in Arachne. Some things the people can do unitedly; some must for ever be left to the individual. Arachne will probably contain both

rich and poor, weak and strong, wise and foolish to the end of time, but we hope it will contain less crime, less unhappiness, and fewer failures than any other city in the world. The charter of Arachne will suit neither nationalists nor silurians, but it is worth trying nevertheless." The charter provided for the absolute equality of men and women before the law, and for non-sectarian free schools in a chain from the primary grades through the university, with schools of the arts and industries. Then came the qualifications for voters: "City elections shall be conducted separately from all other elections. Voters at city elections must be able to read and write, and must be freeholders owning one 'unit of real estate.' 'The unit of real estate' is a lot of fifty feet frontage and not less than one hundred feet in depth extending to a rear alley. This unit cannot be subdivided, though it may be held in several undivided interests. If used for residence, only one house can be built on such a lot, and it must have at least five full feet of space left on each side, ten feet in front, and twenty-five feet in the rear. If used for business, the plans of the building must conform to the general ordinances of the board of building commissioners." The sections relating to "qualifications of officers" were remarkably simple: "All candidates for offices in the gift of the people shall have passed through at least the grammar grade of the public school system. Heads of departments shall have passed through at least the high school grade." The system of voting provided for was unique. Voters were registered by residence. Besides telephonic and phonographic apparatus, and pneumatic tubes for receiving and sending mail, every house contained a "voting tube," connected with the city hall. At night, between the hours of six and nine, every voter sent from his own house or room, to the central voting office, his vote, recorded on a phonographic piece of metal, which passed at once without any human agency into a mechanical contrivance which counted and recorded the entire vote, and preserved the cylinders and tallies intact for twenty-five years. This gigantic machine was mathematically perfect, and had been tested in every possible way. The entire vote of the city was announced within an hour after the closing of the polls. The introduction of a single unregistered vote, or of a vote from the wrong place, would cause the machine to throw out the entire vote of that house or room. Any voter could give his number at any time within twenty-five years, and hear his own vote read off by the machine. The city had printed on its ballots the names of all persons nominated by fifty or more freeholders. The voter merely read off the names of those he wished to vote for, and his phonograph recorded it. The voting-tubes and the machine were securely closed at all other times of the year except during the three voting hours. The register of the city was posted, page by page, in many prominent places, for weeks before the election, and the city had a standing offer of a reward for the discovery of any fraudulent entry.

After a few years it became evident that machinery had triumphed and hopelessly broken up all the political machines. Voters stayed at home, after dinner, long enough to vote, and then went to the theaters, libraries, or art galleries, returning in time to hear their phonographs report the results of the election. The organization of the city was said by the charter "to be for the purpose of carrying on, as cheaply and efficiently as possible, the business of the city." The officers were expected to give their entire time to the city's service, and all were salaried. The head of the government was called "The city president," answering in some respects to the Mayor, but with greater powers. He sent all nominations for heads of certain departments to the legislative body, which consisted of twenty-seven members, nine of whom were chosen once in every two years. They were elected not from districts, but at large, and were termed "the city legislature." The officials nominated by the president, and elected by the legislature, were those belonging to what was termed the "Industrial Group of the City Depart-

ments"—the chief forester, the sanitary engineer, the city architect, the chief railroad engineer, and the heads of the water supplies, the gas wells, and the sewerage furnaces. These were all trained and educated specialists, for each department worked up to within certain test limits of error, just as the United States mints now do. The heads of the "Governing Group" of officers, the city attorney, the school superintendent and directors, the chief librarian, the head of the art schools, the insurance, banking, and fire commissioners, head of the tax department, chief of police, and similar officers, were elected by the people. The judiciary were twice elected, once by the people, and once by the president, legislature and other elected officers assembled in council on the following day. Usually they ratified the choice of the people, but there were many notable instances where they had reversed that decision. This being a veto power required a two-thirds vote. In that case the people presented new candidates. Taxes were arranged on the basis of the "Unit of Real Estate." This unit was taxed at a fixed rate, whether improved or unimproved. A fixed amount of water and gas was furnished free to each house—this amount being rated as "sufficient for the use of one family;" everything above this amount was charged at cost of production. The sewerage furnaces turned in a large annual revenue to the city. The transportation department, which included all the freight and passenger traffic, had rates of charges fixed from time to time by the city legislature. The income from this source added to the revenues of the sewerage department and the small fixed tax on the unit of real estate, was sufficient to pay all the expenses of the city government. The city had enabled its citizens to escape most of the indirect taxes of the cities of the nineteenth century, and the result was most astonishing in the tax department. It was not necessary to put a dollar of tax on the great buildings, for, as the city grew, the added transportation, at rates that lessened each year, paid all the expenses. The legislature had the right to raise the tax-rate on the unit of real estate, and even to levy a graduated tax on all buildings which cost more than \$5,000, but this was a right which it never exercised. The other sources of income were sufficient.

As Arachne grew from a population of fifty thousand to one of half a million, and before the close of its first century, to more than two millions, the wisdom of its founders became more and more manifest. It was a city of homes, of health, of happiness. Individuality had its proper play, competition had healthful activity, but the sense of brotherhood was cultivated, and, as the powers and duties of the city grew, the service of the city increased in honor and responsibility, and the organization of public life became more perfect.

The evils of cities like London and New York never existed in Arachne; there were no slums, no tenement houses, no pestilence-haunted rookeries, no dives and dance cellars and saloons, for the spirit of the community did not tolerate these things.—C. H. Shiinn in *The Argonaut*.

DENTAL ELECTRICITY.—An electric instrument has been invented which is designed to remove the pain incidental to the extraction of the teeth. It consists of adjustable, pivotally-connected prongs carrying buttons and connected with an electric battery, the buttons being placed on the face over the nerves leading from the teeth to the brain, and a circuit established the moment the tooth-extracting instrument touches the tooth to be removed.

SPARKS AT HOME.—A very simple apparatus for obtaining an electric spark is made by a German physicist. Round the centre of a common lamp chimney is pasted a strip of tinfoil, and another strip is pasted from one end of the chimney to within a quarter of an inch of this ring. Then a piece of silk is wrapped around a brush, and the interior of the chimney is rubbed briskly. In the dark a bright electric spark may be seen to pass from one piece of tinfoil to the other each time the brush is withdrawn from the chimney. Many other experiments can be tried with this apparatus.

GEOLOGICAL MYSTERIES.

SUPPOSED ORIGIN OF SOME OF THE PRECIOUS STONES OF COMMERCE.

Geology has been a revelation to mankind, and has told us wonderful things of the past history of the earth. But geology has secrets of its own that are as hidden from comprehension as the atmosphere of the moon or the belts of Saturn. Certain things have been done, says the geologist, through volcanic action or the agency of fire, and that is as near as he can come to it. So that, after all, we see effects, but know little or nothing of causes. There is a rock known as amygdaloid, one of the igneous rocks, which in some of the gigantic transformations of nature, we will say in cooling from a melted state, formed within itself cavities, from the size of a marble or bead to that of the closed hand. Now, as nature abhors a vacuum, she set to work to fill these cavities, and in doing so she used other materials, and these combinations produced some of what we call the "precious stones of commerce." Exactly how this was done we cannot tell, but we see some hint of the operation in every subterranean cave where stalactites and stalagmites are found. Every student knows that this is the result of dropping water which contains carbonate of lime. The water evaporating, leaves a minute particle of lime, which takes something to itself from the earth or atmosphere, and in the course of ages bodies are formed of a most remarkable character. In probably somewhat the same fashion have these cavities been filled in the igneous rocks, and then come time and storms and other agencies, earthquakes, perhaps, and the rocks are rent apart, and out drops a bead or a boulder, and a curious man picks it up, and hammers and breaks it, and then he puts a polish on it by some process more or less advanced, and lo! he holds in his hand an agate or an onyx. Many of the stones used in the arts have no other origin, and are deposits of silica, alumina, oxide of iron and other coloring substances. It is the color or arrangement of colors that gives the name, and thus we have agate, onyx, chalcedony, carnelian, sard, chrysoprase, sardonyx and others, all members of the quartz family, and all having a family resemblance. The agate has veins of different shades of color in parallel lines. Sometimes these are very close together, as many as fifty to the inch, but this is unusual. When there are alternate bands of color and a transparent medium, we have the onyx; but the latter may be obtained by cutting the stone in a different way. Agates are used chiefly for ornamental purposes, such as cups, seals, rings, handles for parasols, swords, table and mantle ornaments, but the material is so hard that it can only be worked by those who have practiced skill. The onyx was valued by the ancients for its application to cameos and intaglios—the first an object in relief, the latter a "cut in" process; and these objects are still made. Nature produces some very strange forms occasionally, and agates are found with exact resemblances of moss and other natural objects and figures, which are very curious and often very valuable.

A WOMAN'S INVENTION.—Mrs. W. A. Cockran, of Shelbyville, Ind., has placed her name on the roll with the great inventors of the world, the result of her genius being a practical dish-washing machine. She began experimenting ten years ago. Her husband, the late W. A. Cockran, was then Circuit Clerk of Shelby County, leaving her financially unable to complete her undertaking. By the aid of friends, however, she finally succeeded, and has a machine designed to do the work now done by the thousands of girls and women the land over. The machine is wonderful and intricate. It is made in different sizes for families and hotel purposes. It is also made for both hand and steam power, and is capable of washing, scalding, rinsing and drying from five to twenty dozen dishes of all shapes and sizes in two minutes, the number, of course, depending on the size of the machine. Mrs. Cockran has recently disposed of her machine to an Illinois manufacturing firm for a large sum of money, and will receive a good royalty on all machines sold.—*Kansas City Star*.

ELECTRICITY.

ITS LATEST APPLIANCES AND EXPLANATIONS OF TERMS, ETC.

Electricity is now so extensively utilized that, in one form or another, it is constantly before us and forms the theme of numerous newspaper articles. Naturally those who are engaged in any business connected with electricity will use technical terms in expressing their thoughts, which, while perfectly familiar to them, are not so comprehensible to the general public. A few hints in this direction may be of service to our readers. The terms we most frequently read of are electromotive force. This is the force that tends to start and which sustains the flow of an electric current, or which produces mechanical effects by means of electricity as a motive power. This power or force is measured in units called volts, or the force that will give a mass of a gramme a final velocity of a centimetre per second by alone acting on it for a second. An ohm is the unit of electrical resistance. Ohm's law is that the strength of a current is directly proportional to the electromotive force that tends to drive the current through the wires of the circuit, and it is inversely proportioned to the resistance which the whole circuit offers to the passage of the current. Ampere is the unit of strength of current. The ampere is the current produced by the electromotive force of one volt in a circuit whose resistance is one ohm. Crudely stated, the ampere represents the volume of electricity, the volt expresses the pressure, and the ohm stands for the resistance encountered. Arc is the space between the two carbon points in an electric lamp. When the electric current is on, the discharge of the same, or its leap across from one to the other of these electrodes, is called the arc. It is really the incandescent space between two carbon points. The carbons, in electrical parlance, are the sticks or rods employed in arc lamps, between the ends of which the electric arc is formed. They are made of powdered coke, mixed with some glutinous hydro-carbon substance, molded and baked. A dynamo is a machine for generating electric currents by the conversion of motive power into electricity. Incandescence is the luminous appearance of intensely heated bodies. Electricity is evolved from the joint action of motion and magnetism, and this practically what a dynamo-electric machine does. An armature revolving at great speed near to but not touching the magnets, develops electricity ready to be carried from the machine by wires. These dynamos being powerful and cheaper to operate on a large scale, have very largely supplanted the so-called primary batteries, where electricity was produced by the decomposition of metals in acid or alkaline solutions. Electric lighting is done either by the arc light, which has been already explained, or by the incandescent, which is due to the incandescence of a carbon filament, which being small so retards the flow of the current as to create incandescence through great resistance. Another use for electricity is that of electric motors, which being needed principally in the day time when electric lighting is not needed, gives profitable employment to electric lighting plants. It is simply the result of reversing the dynamo electric machine and converting it into electric force. Storage batteries are constructed to receive and hold electricity on the principle of secondary currents, to be given off again when required; so that electricity can be supplied in a small compass and at a distance from where it is generated without the aid of long conducting wires. The telegraph is too familiar an application of the electric current to require any further explanation than to say that late improvements have more than quadrupled the facilities for its practical use. In the telephone the atmospheric waves produced by the voice of the speaker striking against the transmitter into which he talks, cause a plate of iron called a diaphragm to move towards and from the pole of a permanent magnet, around which is wrapped a coil of insulated wire. An electric current thereby results, which, flowing over the wire, passes into the re-

ceiving instrument and causes in it a movement that exactly corresponds to the movement produced at the transmitter. One strange thing is to be noted here. While the voice of a speaker at one end of the line is thus reproduced at the other, the voice itself is not transmitted. It is not the sound of the voice that travels along the wire, but an electric current. The microphone, the invention of Professor Hughes, is an instrument by which minute sounds, like those of a fly walking, can be magnified so as to be distinctly audible. The action of the microphone is as yet but little understood, and is a cause of much discussion among scientists. The phonograph is an instrument wherein a cylinder, covered with prepared wax, is rotated by an electric motor. The voice of the speaker into the instrument vibrates a diaphragm, and a tiny metal point affixed to its under side marks lines of varying depth on the wax cylinder. By shifting the cylinder back to the starting point and revolving it, a delicate little membrane gives back in low but clear and distinct tones the very words that have been spoken before. Various ingenious mechanical appliances make the instrument practical. Such is a brief explanation of the more practical uses of electricity, its action, and the technical terms most generally employed.

CALIFORNIA INDUSTRIES.

THE REMARKABLE PRODUCING CAPACITIES OF THE GOLDEN STATE.

(Continued.)

In previous numbers we have spoken of the products of Southern California counties. We will now look at Sonoma County. This is situated twenty-five miles north of San Francisco, on San Pablo Bay, an arm of San Francisco Bay, and has the Pacific Ocean as its western boundary. Its area is about 1,500 square miles. It is the seventh county in size of California, and is about as large as the State of Rhode Island or half the size of the kingdom of Belgium. Some of the mountain peaks of the coast range in this county reach a height of 3,500 feet. It is in this and adjoining counties that the redwood trees of commerce grow to such immense proportions. Sonoma has four great valleys, the Sonoma, Petaluma, Santa Rosa, and Russian River or Cloverdale Valley. In this county the mountain ranges are of volcanic origin and the soil rests upon a hard bed of secondary formation. Trap or basalt is the principal rock, though carbonate, limestone, porphyry, granite, and sienite slate are found. Coal has been worked to a small extent, and petroleum has also been found. At present cordwood is too cheap to make coal mining profitable. The principal mining industry is for cinnabar or quicksilver. Borax, kaolin, iron or copper ores have also been found. Sonoma and Petaluma are two navigable tidal creeks in this county, and the largest stream is Russian River. There are also four other large creeks and innumerable small creeks, making this one of the best watered counties in the state. In 1887 the sale of redwood in San Francisco from Sonoma mills was 7,139,938 feet, and of pine 500,000 feet, making a total of 7,639,938 feet, while the real output was nearer 40,000,000 feet. Sonoma County was the pioneer of that part of California which lies north of San Francisco and was first settled by the Russians. Its fertile fields are developing a wealth greater than any mining industries could furnish and far beyond the most enthusiastic expectation of its early settlers. All this in a country under a warm sun, and cloudless sky, where not a drop of rain falls during five months of summer. Wheat is not a very large crop in this county, barley being grown more, nearly 25,000 acres being sown with it, and only about 22,000 acres are sown in wheat. The barley crop is estimated at nearly 800,000 bushels, oats were sown on only 5,000 acres, 80,000 acres of hay were also grown. The number of fruit trees in the county were reported by the assessors at 656,755 two years ago, and probably now reach a million, including 20,000 olive, 12,000 apple, 30,000 pear, 6,000

plum, 36,000 prune, 6,000 cherry, 4,000 apricot, 25,000 peach, and 15,000 walnut and chestnut trees. Nearly 30,000 acres were set out in vines. A total of three and a half millions of gallons of wine was the yearly production. Hops yielded 2,000,000 pounds. A great deal of stock is raised here, and nearly all blooded stock. Sonoma County farmers having long since learned that it costs less to feed a blooded cow or ox than a scrub, and that the former will always bring more money in proportion. About 1,500 tons of butter are made yearly. Of wool, about 1,500 tons are annually sold. Of the fruits, the apple, peach, prune, fig, and apricot grow side by side and to perfection. Besides these we have not mentioned the cherry, almond, nectarine, quince, mulberry, pomegranate, the strawberries, blackberries, gooseberries, and currants among small fruits, and besides these, oranges. All thrive and bring forth abundantly. Much more could be written about the products of this county, but we forbear. It has been wonderfully blessed by nature and the industry of its citizens has developed it to a large degree. Its wine industry alone would furnish material for a lengthy article.

(To be continued.)

WATCHES.

HOW A POCKET TIME PIECE SHOULD BE HANDLED.

A watch even of very good quality, can only give satisfaction if it is treated according to its subtle construction. Its possessor must prevent it from falling or being knocked about. A jump from a street-car has more than once caused a good time-piece in the jumper's pocket to change its rate. A watch must be kept in a clean place. Dust and small articles of the pocket lining gather continuously in the pockets, and even the best-fitting case cannot protect the movement from dirt finding its way to the wheels and pivots of the movement. Watch pockets should be turned inside out and cleaned at regular intervals. A watch ought to be wound up regularly at about the same hour every day. The best time to do it is in the morning, for two reasons. First, because the hours of rising are more regular than the hours of disrobing and retiring. Second, because the full power of the main-spring is more likely to reduce to a minimum the irregularities caused by the movements of the owner during the day. When not carried in the pocket a watch should always hang by its ring in the same position that it is worn. As a rule watches will run with a different rate when laid down. Only high-grade watches are adjusted to position, and will show only a few seconds difference in twenty-four hours, while common watches may be out of time several minutes in one night. Ladies often complain that their watches do not run regularly. This may be on account of smaller size and more difficult regulating, but the main reason for the faulty rate is to be found in the fact that ladies do not always carry their watches, and consequently often forget to wind them. Never leave a hunting-case watch open during a considerable length of time. A careful observer will find in the morning a layer of dust on the crystal of a watch that has been open during the night. The dust will find its way into the movement. The dust on the outside of the case will be unconsciously rubbed off by the wearer, but when the watch is closed the dust inside of the case must remain there. A watch ought to be cleaned every two, or at the utmost three years if it is not to be spoiled. The oil will change. It will become thickened by the dust that cannot be kept out of the best closing case. The dust will work like emery, and grind the surfaces of the pivots of the train. The best of movements will be spoiled if this requirement is neglected. Even after being cleaned and put in order they will not recover their former exactness. Many times it has been observed that a watch ran well for years, and that it was unreliable after having been cleaned. The reason is to be found in the fact that the pivots and their thick oil fit the jewel holes, and the cleaned pivots and their clean oil do not fit the same jewels.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

November.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

GRAHAM BREAD.—Three cupfuls of sour milk, 1 cupful of New Orleans molasses, a little salt, two teaspoonfuls soda, dissolved in a little hot water. To this add as much Graham flour as can be stirred in with a spoon. Mix thoroughly, pour into well greased bread pans, and bake immediately for about two hours.

PINEAPPLE PIE.—Line a pie plate with pastry, and fill with a mixture made of one-half cupful of butter and one of sugar, beaten to a cream; to this add the well-beaten yolks of five eggs, a grated pineapple, one cupful of sweet cream, and lastly the beaten whites of the eggs, beaten in lightly.

APPLE TARTS.—Boil nine or ten large tart apples that have been pared and cored in one-half teacup of water until they are very soft. Take from the fire and beat them until they are very smooth. Beat up one-half cup of butter and one and a half cupfuls of sugar to a cream; put to it the grated rind of two fresh large lemons and the beaten yolks of six eggs; beat well together, and add this to the apples; beat thoroughly. Have ready some little tart shells, lined with paste; fill with the mixture, and bake for a few moments; take from the oven, mix the whites with six tablespoonfuls of powdered sugar, spread over the tarts, return to the oven, and brown slightly.

BAKED CHICKEN.—Cut a chicken up in pieces; dip them in beaten egg and bread crumbs, well seasoned with pepper, salt and chopped parsley; pour a little water in a dripping pan; put in the chicken, putting little bits of butter over it; bake slowly, basting often. When tender, take the chicken out, and make a gravy by adding flour, butter, pepper and salt to the drippings, with enough of either cream or milk to make sufficient gravy; pour over chicken, and serve.

POTATO CROQUETTES.—Boil and mash some potatoes; add salt, pepper and minced parsley; form into little balls, dip in egg and bread crumbs and fry in hot lard.

POTATO CAKES.—Take cold mashed potatoes left over from a previous meal and form them into little cakes, using a little flour to form them, but not mixing it into the potato; arrange on a pie plate, glaze with beaten egg and bake a delicate brown.

LAYER CAKE.—One and a half cupfuls of granulated sugar, one-half cupful of butter, stirred to a cream; three eggs, two heaping cupfuls of flour, one and a half teaspoonfuls of Horsford's baking powder, one-half cupful of milk. Bake in three layers.

Filling: Boil one teacupful of sugar and a little water until brittle in cold water; take from the fire and add quickly the well-beaten white of an egg and a cupful of stoned raisins, chopped fine, or a cupful of hickory nut meats.

FINE OIL.—A very fine machine oil for extremely delicate machinery may be made by putting equal parts of lead and zinc shavings into good Florence oil and placing it in a cool place until the oil is colorless. This will not gum.

READY MADE MEALS.

HOW NEW YORK CATERERS SUPPLY FAMILIES AT THEIR HOMES.

"It would seem," said a New York woman recently, "that we have not taken very kindly to what might be called the itinerant catering service. A friend from a Western town who is in the city with a crippled child for treatment wrote me to secure for her a furnished room near her physician, and arrange to have their meals served there. I went at once, after engaging a very pleasant back parlor, to look up the New York Catering Company, which I hazily recollected used to be on Sixth avenue, somewhere among the forties. Not finding it readily, I inquired in the neighborhood and learned that the concern sold out and went out of existence two or three years ago, presumably on account of non-support. My informant told me besides that he knew of but one other similar enterprise in operation in the city that was conducted by a colored man further down the avenue on a much less extended scale. I found and interviewed this person, and was surprised at the moderate prices he gave me. Seven dollars per week for one, twelve dollars for two, or sixteen dollars for three. He gave me a list of dishes for that day's service, eggs, chops, a cereal, two kinds of hot bread, and coffee for breakfast, with soup, fish, roast beef and two vegetables, a salad, desert, and coffee for dinner. Only two meals are served. In answer to my inquiry he told me that the roast meat was sliced and served on a small platter, a generous portion being allowed for each. I rather objected to this, and after some further discussion he agreed to serve whole joints, entire puddings and pies and the like, for the two persons whose need I was endeavoring to supply, for \$20 per week. My friend is greatly pleased with his service, says everything that ought to come hot does, and all things come garnished and appetizing. Before I finished with the man I found out that most of his custom comes from furnished room occupants and small flats occupied by two or three adults, who can by this means dispense with a servant or need only an inexpensive one. Yet the fact that he has not all the customers he wants and that he is almost the only representative in the field (I heard later of one other, less prosperous even than he) indicates that the system is not a popular one."—Sun.

MUSICAL INSTRUMENTS.

THEIR CHARACTER, VARIETY AND CAPABILITIES.

All sound is caused by a vibration of the air. These vibrations, although analogous to those of the ether which are supposed to produce light and heat, are very much coarser, and are quite within the comprehension of our senses. The thirty-second part of a second is quite an appreciable interval of time, and a musical note giving thirty-two vibrations to a second is readily perceived by a normal ear. The opposite limit is quite variable, depending upon individual peculiarities, but 20,000 vibrations to a second may be given as the average limit for the highest perceptible note. The well-known experiment of striking a bell in a vacuum shows that the vibrations of sound are transmitted by the air itself, and not by some more subtle medium, as with heat, light and electricity. The art of music consists in the production of sounds of varying periods of vibration, at such intervals and in such a manner as to produce a pleasurable sensation upon the ear. It would be beyond the scope of this article to explain the complex mathematical laws upon which the science of harmony is based, and we will only describe the principles upon which the instruments used to produce musical notes are constructed. Nearly all musical instruments can be divided into two classes—the stringed, and wind. In the former the note is produced by a vibrating string or cord, while in the latter a column of air itself is set into vibration, and takes the place of a string.

The piano-forte is the most familiar example of a stringed instrument. In this case each note is produced by a separate string, which is carefully tuned to the right period of vibration. The note produced by any vibrating string depends upon its size, length and tension—the smallest, shortest and most tightly stretched strings giving the highest notes. Such a number of strings necessarily makes the instrument very heavy and expensive, and simpler forms have been devised, like the violin, guitar, banjo, etc., which are small and light, and have but a few strings, which are made to produce any desired note by varying their length by the fingers of the player. The harp and zither also belong to the piano class of instruments, but are not very much used. It has been found, however, that a material string is not necessary to produce a note, but that a vibrating column of air, enclosed in a pipe or tube, answers equally well. The air may be set into vibration, either by a vibrating tongue of metal called a reed, as in the cabinet organ and clarinet, or by a current of air passing through a narrow orifice in the pipe, which sets the adjoining column directly into vibration, as in the common type of church organ and flute. In the organ, like the piano, there is a separate pipe for every note, but in the smaller instruments a single column of air is made to produce different notes by varying its length. In the clarinet, flute, bassoon, and similar instruments, this is accomplished by opening or closing certain holes in their sides, which produces the same effect as the fingers of the violin player when they touch the strings. In the trombone, the length of the column of air is altered by sliding the tubes into each other, and the cornet is provided with valves, which open or close certain convolutions of the tube with a similar result. In this latter class of instruments, the lips are used in place of a reed, and aid in producing the different notes. The human vocal apparatus is a true reed instrument, and is most wonderfully constructed. Two delicate membranes, known as the vocal cords, which can be adjusted at will to produce any desired note, form a most perfect seed, and set the air in the windpipe, mouth and adjacent cavities into the most perfectly regular vibrations. In the act of whistling, the lips act as the vibrating body, and produce different notes according to the varying size of the orifice and the force of the breath. Drums, cymbals and bells can hardly be classed as musical instruments, although the vibrating brass or sheepskin produces sounds which may sometimes give a good effect in connection with more civilized instruments. The peculiar sound of the drum is partially due to the cords which are stretched against the lower end, and are struck by the vibrating leather. The air in the drum is also set into vibration, and adds to the intensity of the sound. This sympathetic vibration, or *resonance*, is a very important principle, by which any body having the same period of vibration as another, is set vibrating by the simple sound of the first—a sort of acoustic induction, as it were. Thus, if two strings are tuned to the same note, and one is sounded in the vicinity of the other, the second will also be thrown into vibration, and both will sound together. A certain note of a piano will often cause some article in the room to vibrate with it, as every musician has observed. Stringed instruments are provided with a sounding-board, a thin sheet of wood forming one side of a box over which the strings are stretched. The wood and air in the box vibrate in unison with the strings, greatly strengthening the comparatively feeble sounds of the strings themselves. The purity of tone of a fine piano or violin depends in a very large degree upon the care and skill with which the sounding-board is constructed. The distinction between sound and noise is not a very marked one, as every noise is to some degree a musical note, and, with proper care, music can be obtained from the most unpromising articles. Bottles, flower pots, strips of wood, and glasses of water, may be arranged to produce the notes of the scale when struck, and a skillful performer can obtain very pleasing results. The color, or *timbre*, of

musical notes should also be referred to. A note of the same pitch and intensity gives a very different sound when produced by a violin, for instance, than by a flute. The researches of Helmholtz have shown that this is due to the fact that musical sounds are generally compound—that is, made up of several distinct notes of different pitch, and known as over-tones, or harmonics. He devised several ingenious pieces of apparatus, by which he was not only able to analyze the tones of different instruments, and prove the presence of these harmonics, but also to recombine them and reproduce the original tones. The laws of harmony upon which our modern science of music is founded, are very intricate, but the best introduction to the science is the possession of that rather rare natural gift, "a musical ear," without which no amount of study will enable one to thoroughly enjoy good music or produce it for the enjoyment of others.—*Pop. Science News.*

ALDEN'S CYCLOPEDIA.

Careful examination of the eighteenth volume of Alden's *Manifold Cyclopaedia* shows that in many respects this remarkable work is superior to any of its competitors, especially in its adaptation to popular use. Its combination of an unabridged dictionary with the ordinary features of a cyclopaedia of universal knowledge is unique. The definitions and pronunciation of the words are clear and accurate, the illustrations are excellent, the topics are thoroughly treated, and embrace the results of the most recent investigations and discoveries. Then, too, the extremely low price places it within the reach of all. The eighteenth volume is fully up to the high-water mark of its predecessors. It is especially rich in its biographies. We find sketches of Hall and Hayes, the Arctic explorers; John Hall and Robert Hall, celebrated clergymen; Hallam and Herodotus, historians; Haller, the philologist; Alexander Hamilton, the statesman, and Sir William Hamilton, the scientist;

Handel and Haydn, the musical composers; Hannibal, the foe of Rome; Hegel, the philosopher; Heine, the poet, and Hengstenberg, the theologian; Herschel, the astronomer, and many other men of renown. Among important articles in other lines are Hallucination; Hand; Hanseatic League, the famous trade union of the Middle Ages; Harbor; Hartford Convention, unique and famous in our political history; Harvard University; Hay; Hayti; Heat; Heart; Heaven; Hell; Heredity; Heresy, and Hieroglyphics. The forty volumes in which this great work will be completed will make a splendid library.

PROPRIETARY MEDICINES.

There are two kinds of so-called proprietary medicines and they are as different as daylight is from darkness. One kind is the result of years of experience, scientific research, ability, large capital, and an honest purpose to give a fair equivalent for the purchaser's money. The other kind is simply a scheme to obtain the people's money, regardless of any equivalent therefor and without a thought of benefitting any one but the manufacturer. These latter, like parasites, thrive on the damage they do and dishonestly avail themselves of the industry of their fellow men. They are too well known to require any further description. We will, therefore, only speak of the former. Any well-educated pharmacist knows when a physician's prescription is shown to him, for what special purpose the medicine, so prescribed is intended, and long experience has taught him just what results can be expected from such medicine. Not infrequently a prescription comes under his observation, which is an unusually happy combination, and when, after long observation among the patrons of his pharmacy, with whom he is generally on confidential terms, he finds that such medicine has more than ordinary good effect he takes careful note of it. After a few years of such patient and conscientious investigation a

capable, pains-taking pharmacist will have on hand an array of tried and proven formulas which, if he were also a physician, would enable him to attend a very large practice with great benefit to his patients. Having thus succeeded in getting the most important part of his business—reliable formulas for valuable preparations—the pharmacist who would commence the manufacture of proprietary medicines needs something more yet. He must have capital to enable him to go out in the open market and command first choice of all the crude drugs he requires; he must be able to buy in large quantities at first hands; to store some, if not all, of these until they are sufficiently matured for his purpose; to have the most improved machinery to prepare his medicines, and a large stock of bottles, labels, cases, and boxes to put up his medicines for market. After this he must be able to place his wares before the public; for without calling the attention of the public to what he has to offer, he would find but few purchasers.

What has been thus far stated are only generalities. If a man had all that has been mentioned and then allow his desire for gain to get the better of his wisdom, he would in the end, make a worse failure than if he had not had the capital necessary to start him. It has been said that if one were to grind up brick-bats and put up the powder in an attractive form he would command a ready sale for it. Never having seen this tried, we do not know how true it may be; but we do know that a worthless or inferior article, no matter how well advertised, cannot keep the market. The public may be swindled once, but no one will be taken in oftener; and as the profit on every advertised article really lies in duplicated and constantly increasing sales, only meritorious articles—the quality always kept up to the highest standard—can hold its own for any length of time. Such preparations are honestly put together, kept up in quality, and offered to the public conscientiously and truthfully without misrepresentation or

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTER OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTER OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

equivocation. The published certificates as to the results of their use are genuine and the originals are on hand for inspection and verification. Years of public trial in every land and climate increase a business so conducted, and the proprietors soon find themselves reaping the reward of their patient fidelity, not only financially but in reputation and public confidence. We have thus rapidly sketched the career of an honest proprietary medicine. The ideal thus pictured may be compared with the reality as found in the old-established house of Dr. J. C. Ayer & Co., of Lowell, Mass., the manufacturers of Dr. Ayer's well-known preparations, consisting of Ayer's Sarsaparilla, Ayer's Cherry Pectoral, Ayer's Ague Cure, Ayer's Cathartic Pills and Ayer's Hair Vigor, and it will be found that it is exactly correct. All over the world these preparations are gratefully known and beneficially used.

BUSINESS NOTES.

BAKING POWDERS.

The laboratory of the Inland Revenue Department of the Dominion of Canada under date of June 22, 1889, has issued a bulletin on baking powders, some extracts from which, *literalim et verbatim*, and not garbled, as has been done by interested manufacturers, may be of considerable interest to the reader. The first striking fact is a reference to the Royal baking powder manufactured by the Royal Baking Powder Company of New York, in the following language: "Thirteen samples show this to be a cream of tartar powder, containing about 18 per cent. of maize starch and about 1 per cent. carbonate of ammonia. The result of the examination of these samples was that they contained an average of 18.2 of maize starch, 52.26 of cream of tartar, and 11.35 per cent., or 109.79 cubic inches per ounce of available gas. Of this 8.46 was ammonia gas. There was an average excess of soda of 0.95 per cent.

Of Price's cream baking powder the analyst says that it contained an average of 20.7 per cent. of maize starch, 49.82 of cream of tartar, 10.98 per cent., or 106.21 cubic inches per ounce of available gas. This is

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME
OF
AND GET
THE GENUINE

Stewart Hartshorn

HARTSHORN

Fine Table
Wines

From our Celebrated Orleans Vineyard.

Gordon & Dilworth & Co.

Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.



The World was ready for Pearline—received it with smiling face—outstretched arms and in a few years, has made the very name PEARLINE to mean perfect cleanliness, with ease, comfort and safety.

It's to your interest and ours to have you try it (we share the benefits with you). On coarse articles or fine; on anything washable.

Pearline has a thousand uses; if it pleases you for one only, you'll be well paid for the trial; but you'll like it for all.

It is coming to be as well known as flour—no wonder—it's almost as necessary to any first-class housekeeper.

Delightful in the bath. Millions use PEARLINE because it helps them—not us. It helps us most to make an article that helps woman.

Beware

Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearline, or "the same as Pearline." IT'S FALSE—they are not, and besides are dangerous.

155

Pearline is manufactured only by JAMES PYLE, New York,

an excellent powder, and seems to have good keeping qualities. The report then goes on to establish a standard of an ideal baking powder, and says: It will be seen that Price's Cream is the only brand approaching the limit fixed for an ideal baking powder.

The only fair way is to leave these facts to the public to judge, without comment from us.

SARDINES.

We hear a great many complaints about poor sardines, and an examination of many grocery stores seems to show that a large quantity of very poor sardines, to say nothing of fraudulent sardines, are in the market. If our readers would only remember that when they buy sardines one way of avoiding being imposed upon is to look upon the label, and if it reads "Poissons en huile" they may be sure that what are offered them are neither sardines nor olive oil, as the French law provides that on boxes containing any other fish than sardines the label must read "Poissons en huile," fish in oil. On genuine sardines the label reads, "Sardines en huile." A much surer way, however, is to ask for Billet Sardines. These sardines we have examined several times, and have always found them fully up to the standard. They are carefully selected and cleaned, cooked exactly to the proper point, and the oil used in packing this brand is fit to make a salad for the most exacting epicure.

JAMS AND PRESERVES.

Experience is the best teacher. That being admitted, let us suppose a person who thoroughly understands fruits, and how to select the best, watching the markets daily to pick out the very choicest and those which are most adapted for preserving, with plenty of ready money with which to buy them. Now, if this person also knows the most suitable way of preserving fruits and making jams, with every facility in the way of paring, cleaning, washing, cooking, sweetening and potting, and we know that they are absolutely clean, would we not conclude that we could buy the best preserves and jams from them at a lower price than we could make it ourselves. This is just the case when we buy the goods bearing the well-known trade mark of Gordon & Dilworth.

SOAP AT THE PARIS EXHIBITION.

Colgate & Co. received the only gold medal for American soaps at the Paris Exhibition. They also received

a gold medal for handkerchief perfumes, toilet waters and sachet powders. Their exhibit at Paris was tastefully displayed in a gorgeously carved case of Indian teakwood, and was said by one of the French Commissioners to be the most attractive exhibit in the American section. Among the handkerchief perfumes, for the excellence of which they took a gold medal, Italian Violet called forth the most enthusiastic praise from the Jury of Award.

HUNYADI JANOS.—There recently died in Buda-Pesth Andreas Saxlehner, the discoverer and proprietor of the well-known Hunyadi Janos water. He was a cloth dealer and a Hungarian patriot and a warm friend of Kossuth. In 1863 a cloth dealer from the country, chatting with Saxlehner in his shop, told the latter that he had upon his own land no fewer than ten places on which an oddly tasting and smelling water bubbled up, which neither man nor beast could drink. Saxlehner visited the farm, accompanied by Dr. Molnar, the analyst. The visit and analysis resulted in the purchase of the farm. Twenty years later the poor weaver's son had become the richest trader in Hungary, and had developed Hungarian industry and commerce in a direction and to a degree of which Kossuth never dreamed. He named the water "Hunyadi Janos," after his darling hero, John Hunyadi, the victor over the Turks.

HOSPITAL REMEDIES

THE Favorite Prescriptions of the Brightest Medical Minds in the world, as used by them in the Hospitals of London, Paris, Berlin and Vienna.

ONE MEDICINE FOR ONE DISEASE.

- No. 1—Cures Catarrh, Hay Fever, Rose Cold, Catarrhal Deafness.
- No. 2—Coughs, Colds, Bronchitis, Asthma, Consumption. A Peerless Remedy.
- No. 3—Rheumatism, Gout.
- No. 4—Liver & Kidneys, Dyspepsia, Indigestion, Constipation, Brights Disease.
- No. 5—Fever and Ague, Dumb Ague, Malaria, Neuralgia.
- No. 6—Female Weakness, Irregularities, Whites. A Golden Remedy.
- No. 7—A Perfect Tonic, which gives Health, Form and Fullness, Clear Complexion, Good Blood and lots of it.
- No. 8—Nervous Debility, Loss of Power, Impotence, an incomparable remedy.

RELIABLE AGENTS WANTED.

Every bottle guaranteed to cure its special disease if CURABLE and to give permanent relief ALWAYS. Descriptive Circulars sent free on application. HOSPITAL REMEDY COMPANY, Toronto, Canada.

TELEGRAPHIC PROGRESS.—The Western Union Telegraph Company's report for the year ending June 30, 1889, shows the wonderful growth of telegraphy in the United States. Since 1870 the company lines of wire increased from 112,191 to 647,697 miles, the offices from 5,972 to 18,479, the messages sent from 9,157, 46 to 54,108,326, the gross receipts from \$7,138,737 to \$20,783,194, the expenses from \$4,910,772 to \$14,565,152, and the profits from \$2,227,965 to \$6,218,041, while the average charge per message has decreased from 75.5 cents to 31.2 cents, and the average cost per message to the company has decreased from 51.2 cents to 22.4 cents. The profit per message was 24.3 cents in 1870, and in 1889 it was only 8.8 cents.

AN HONORED FAMILY.—The *Journal of Commerce* statistician after an exhaustive investigation is convinced that the Smith family in this country have attained all the honors and eminence to which their numerical strength entitles them. About one eighty-fifth of our population are Smiths. Four of the 226 Cabinet officers since the beginning of the Government, or one out of 56, have borne that name: One of the 55 signers of the Declaration of Independence was a Smith, as was also the writer of our two or three really excellent patriotic songs, "My Country, 'tis of Thee." Of the 679 members of the Chamber of Commerce in this city, nine (including the president), or one out of 77, are Smiths; of the 3,000 members of the Produce Exchange, 39, or one out of 77.

INFLUENCE OF PURE AIR.—A Dairy at Frankfort-on-the-Main made the following valuable observations. They kept in a standard stable eighty Swiss cows, extraordinarily well fed and treated. In the years 1878 to 1879, prior to the introduction of a ventilation system, the same yielded on an average per cow, 3,700 liters in 1877, same amount in 1878, and 3,716 liters in 1879. Subsequent to the introduced ventilation the amount of milk yielded, the food being the same, was as follows: In 1880, 4,050 liters milk per head; in 1881, 4,152; in 1882, 4,354 liters.

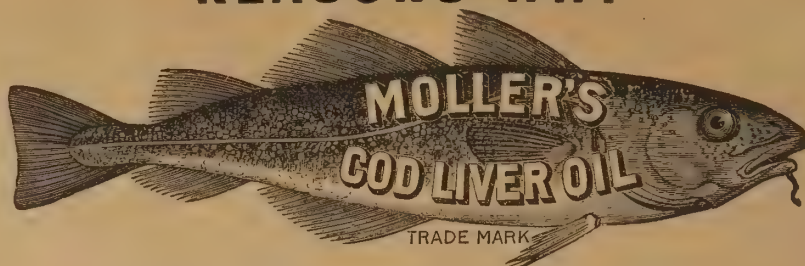
DOUBTFUL.—A German forest keeper, 62 years of age, not wishing to carry to his grave an important secret, has published in the *Leipsic Journal* a recipe he has used for many years, and which, he says, has saved several men and a great number of animals from a horrible death by hydrophobia. The bite must be bathed as soon as possible with warm vinegar and water, and when this has dried a few drops of muriatic acid poured upon the wound will destroy the poison of the saliva and relieve the patient from all present or future danger.

IMITATION BRONZE.—An excellent imitation of old bronze has been introduced in some of the art products of that character. It is well known that the repeated applications to copper or brass of alternate washes of dilute acetic acid, and exposure to the fumes of ammonia, result in a very antique green bronze; but a more rapid method of producing this beautiful appearance has long been a desideratum. It is now found that this may be accomplished by immersing the articles in a solution of one part perchloride of iron in two parts of water, the tone acquiring darkness with length of immersion, or the materials may be boiled in a strong solution of nitrate of copper. It is also found practicable to insure the desired effect by immersing the articles in a solution of two ounces of nitrate of iron and the same quantity of hyposulphite of soda in half a pint of water, drying and burnishing completing the process.

A PEOPLES' LIBRARY.—The National University of Chicago proposes to erect a \$50,000 library, museum and lecture hall to be devoted particularly to free lectures on political economy to workingmen, and to inaugurate in this country the university extension system of Great Britain, bringing the university to the people. \$25,000 are already subscribed, but subscriptions to the remaining stock at \$10 a share are solicited from the benevolent, payments of 10 per cent, to be made annually. One of the trustees of this fund is S. A. Kean, banker, of Chicago and New York.

LOCATION OF THE SOUL.—The soul, says Dr. A. H. Stevens, of Philadelphia, is located in the corpus callosum, a little spongy body situated at the base of the brain, which has defied the efforts of physicians in their endeavors to ascertain its uses in the human anatomy. "The corpus callosum," said the doctor, "is the seat of the imperishable mind, and is the great reservoir and storehouse of electricity, which is abstracted from the blood in the arteries, and conveyed through the nerves up the spinal cord to the corpus callosum."

REASONS WHY



Should be preferred to all others:

Because—It is genuine-pure, just as it existed in the hepatic cells of the living fish, not depleted of its natural virtues by any process of refining, nor weakened by being made into an emulsion with an equal quantity of water, glycerine, etc., which latter device makes water bring the price of Oil.
 Because—In taste and smell it is not offensive, but instead, sweet and agreeable.
 Because—Its administration is always followed by satisfactory results.
 Because—It is more easily assimilated than other Oils.
 Because—It is more nutritious than other Oils.
 Because—Of its perfect digestibility, perfect limpidity.
 Because—This perfect Oil costs consumers no more than the poorer qualities abounding in the stores.
 Because—It is readily obtainable; all well-stocked Drug Stores have it.
 Because—It is unquestionably the purest and best COD-LIVER OIL IN THE WORLD.

W. H. SCHIEFFELIN & CO.,
NEW YORK.

Sole Agents for U. S. and Canada.

TO CURE DRUNKENNESS.—A Russian physician named Portugaloff declares that strychnine is an infallible cure for drunkenness, administered in subcutaneous injection. He asserts that the experience of physicians has shown the cure to be as rapid as it is certain. The effect of the strychnine solution is to change the craving for drink into positive aversion, and this change is effected in a day. After a treatment of eight or ten days, a patient may be discharged. The strychnine is administered by dissolving one grain in 200 drops of water, and injecting five drops of the solution every twenty-four hours.—*Journal of Health.*



BLAIR'S PILLS
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval round box 14 pills.
At all druggists, and 224 William St., New York.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.	Price including Regular American Price. Analyst.	
American Rural Home.....	\$1 00 \$1 50	Harper's Weekly.....	\$4 00 \$4 00
American Agriculturist.....	1 50 1 00	Harper's Monthly.....	4 00 3 00
Art Amateur.....	3 50 4 00	Household.....	1 10 1 35
Arthur's Home Magazine.....	1 50 2 00	Housekeeper.....	1 00 1 25
Art Interchange.....	3 00 3 25	Ladies' Home Journal, Philadelphia.....	1 00 1 50
Babyhood.....	1 50 1 60	Ledger, N. Y.....	3 00 3 00
Ballou's Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Cassell's Family Magazine.....	1 50 1 75	National Tribune, Washington.....	1 00 1 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Day, Boston, ...	2 00 2 50
Christian Union.....	3 00 3 10	Our Little Ones and Nursery.....	1 50 1 75
Cosmopolitan, N. Y.....	2 40 2 50	Outing, N. Y.....	3 00 3 00
Cottage Hearth.....	1 50 1 50	Peck's Sun.....	2 00 2 25
Country Gentleman.....	2 50 2 50	Peterson's Magazine.....	2 00 2 00
Current Literature.....	3 00 3 00	Popular Science Monthly.....	5 00 4 75
Demorest's Magazine.....	2 00 2 10	Puck.....	5 00 4 50
Family Story Paper.....	3 00 3 00	Rural New Yorker.....	2 00 2 30
Farm and Fireside.....	50 1 00	Saturday Night, Philadelphia..	3 00 3 00
Fireside Companion.....	3 00 3 00	Sat. day Evening Post, Philadelphia.....	2 00 2 00
Forum.....	5 00 5 00	Scientific American.....	3 00 3 25
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Scribner's Magazine.....	3 00 3 00
Frank Leslie's Popular Monthly	3 00 3 00	Vick's Illustrated Monthly.....	1 25 1 60
Godey's Lady's Book.....	2 00 2 25	Wide Awake... ..	2 40 2 60
Golden Days.....	3 00 3 00	Yankee Blade	3 00 1 50
Good Housekeeping.....	2 50 3 00	Young Ladies' Journal, English Edition.....	4 00 3 50
Harper's Bazar.....	4 00 4 00	Youth's Companion	1 85 2 25
Harper's Young People.....	2 00 2 25		

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *Elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

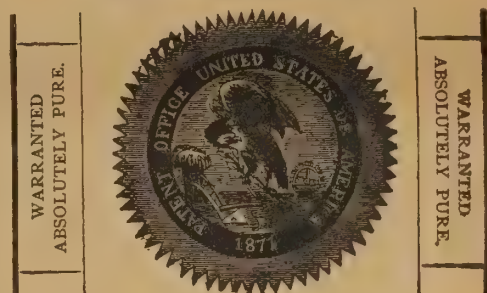
19 PARK PLACE,

NEW YORK.

Established in London, 1831.

DEAN'S PATENT
ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88

North Moore Street, New York.

SUBSCRIPTIONS, - - - \$1.00 Per Year.

NOW IS THE TIME TO SUBSCRIBE.

Tabasco Pepper Sauce
OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.

A BOOK FOR EVERY LOVER OF FICTION!

Ten Complete Novels by Famous Authors!

In one large and handsome volume, neatly bound in colored covers, we have published ten exceedingly interesting complete Novels, by popular and well-known authors, as follows:

JASPER DANE'S SECRET,

By MISS M. E. BRADDON.

THE GIRL AT THE GATE,

By WILKIE COLLINS.

A BRIDE'S TRAGEDY,

By MISS MULOCK.

THE RECTOR'S DAUGHTER,

By MRS. ANN S. STEPHENS.

UNDER LIFE'S KEY,

By MARY CECIL HAY.

GABRIEL'S MARRIAGE,

By WILKIE COLLINS.

THE HEIRESS OF EARNSCLIFFE,

By ETTA W. PIERCE.

THE RIGHTFUL HEIR,

By M. T. CALDOR.

THE DOUBLE HOUSE,

By MISS MULOCK.

TWICE SAVED,

By MRS. MARY A. DENISON.

In glancing over the above list, it will be observed that the authors represented embrace some of the most famous names in literature, both American and European. Each of the ten novels is extremely interesting, though they are not all alike in style, some being of the domestic or home order, and others of the dramatic and exciting kind. These ten complete novels, as above stated, are neatly bound in one large and handsome book, *profusely and handsomely illustrated*, and making a most delightful and very interesting volume. We will send the book by mail, post-paid to any address upon receipt of only **Twenty-five Cents**.

This valuable book will be sent free as a premium to any one sending us \$1.00 for a new subscriber to the **AMERICAN ANALYST**.

ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40 cts. Excellent Family Teas 50 & 60 cts. Very Best 65 to 70 cts. per lb. Special—We will send by mail a **Trial Order** of 3 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy, Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS**.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST**.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no constructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only THREE possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alteratives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptonas.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatin.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses, by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the **AMERICAN ANALYST**.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist.

125 West 42d Street, NEW YORK CITY, N. Y. P. S.—Use Woodbury's Facial Soap for the skin and scalp for sale at all druggists, or by mail, 50 cents.

SEE NEW

CLUB RATES

WITH OTHER

JOURNALS,

ON PAGE 548.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

JOHNSON LOCKE MER. CO.

Shipping & Commission Merchants,

SAN FRANCISCO, CAL.Agency at
PORTLAND, ORE.Agency at
LOS ANGELES, CAL.

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins,
Walnuts, Almonds, Dried Grapes, Borax,
Barley, Mustard Seed, Salmon,
Canned and Barreled, etc.**ADVANCES MADE ON CONSIGNMENTS.**❖ **PICTURES.** ❖

All kinds of small pictures enlarged to life-size.

**FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,**
at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
47 West Twenty-Second St., New York.**Pure**
LAGER BEER,**"IMPERIAL" and
"CULMBACHER"**

Brewed & Bottled

SPECIALLY FOR
HOTELS, CLUBSAND
PRIVATE FAMILIESBY
Beadleston & Woerz291 W. 10th St. New York.Orders by Postal Card
promptly attended to.**LEA & PERRINS'**
SAUCE.

Imparts the most delicious taste and zest to



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.**JAMES CHALMER'S SON'S****Transparent Gelatine.****PURITY-STRENGTH.**

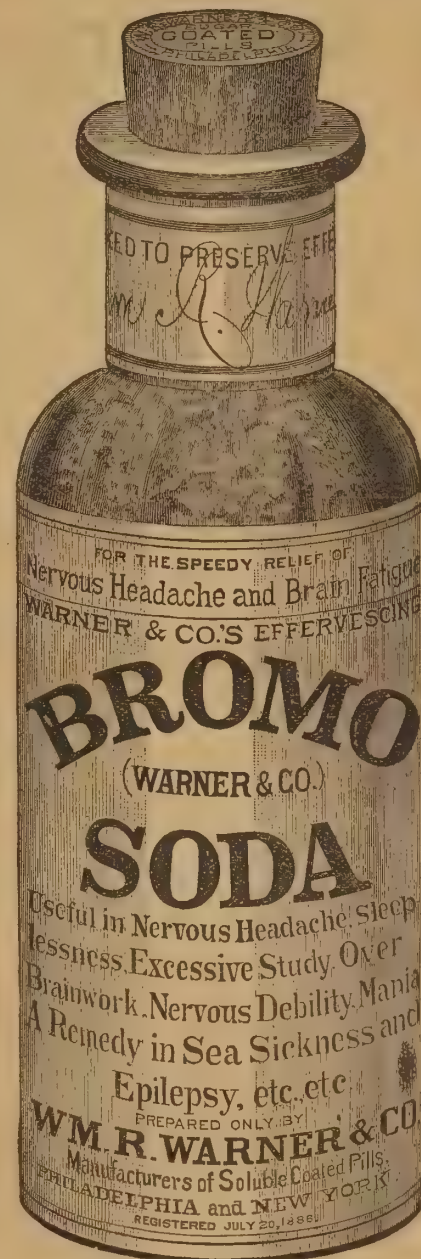
Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

*Sura Cura* **ROBINSON'S**
SURE CURE
FOR
RHEUMATISM
And **NEURALGIA.**And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA.**
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.**R. W. ROBINSON & SON,**
184 Greenwich Street,
NEW YORK.*Sura Cura***A CURE**

FOR

**Sick and Nervous
HEADACHES.**

ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.

DR. PRICE'S CREAM BAKING POWDER

**MOST PERFECT MADE.
NEW YORK'S GREAT CHEMIST.**

This is to certify that I have analyzed Dr. Price's Cream Baking Powder. I find it composed of pure materials, compounded on correct scientific principles. The ingredients are accurately and scientifically proportioned. Hence, bread or biscuits prepared with it are better suited for digestion.

R. OGDEN DOREMUS, M.D., LL. D.,
Prof. Chemistry and Toxicology in the New York Bellevue
Hospital Medical College. Prof. Chemistry
and Physics in the College of the
City of New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.
By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,
By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.
Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

**SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.**

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

**INVALUABLE FOR
SOUPS, SAUCES,**

DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical

Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.
Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M.D., F.R.S., and an endorsement by SIR ERASMUS WILSON, F.R.S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 47.

NEW YORK, THURSDAY, NOVEMBER 21, 1889.

WHOLE No. 143

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Aboriginal Mining.....	556
American Raisins.....	558
Beet Sugar.....	557
Bison, The.....	557
California Industries.—Continued.....	556
Correspondence.....	555
Bogus California Wine.....	
Domestic Dietetics.....	558
Editorials.....	553
Instruct the People; Undrawn Poultry; "Praise from Sir Hubert;" Hoff's Malt Extract; Women Wage Earners; The Milk in the Coconut.	
Fashion's Fancies.....	558
Imported Salts.....	555
Malt.....	556
Slaughter House Economy.....	557
The Queen Wins.—Complete Story.....	554

INSTRUCT THE PEOPLE.

A striking illustration of the power of the press is afforded in the history of the local beef inspection agitation which was projected last year upon the people by a small ring of self-constituted representatives of the retail butcher interest. Ostensibly asked for to prevent the sale of unwholesome meat, but in reality pushed to secure local monopolies, influences were brought to bear upon several legislatures and the so-called local inspection bills were passed. The influences referred to were, generally, appeals to local pride and to geographical jealousies, and the mistaken conception that the people really wished for such laws. In sections where these influences prevailed these laws were passed and remained in force just long enough to prove the truth of the allegations made by the opponents of the bills, that as soon as a monopoly was secured the quality of the meat furnished by the local butchers would deteriorate while the price would be increased. The courts then

interfered and declared these statutes unconstitutional. Now the local agitators come out boldly and admit that the laws were not asked for in the interest of public health but to prevent the money paid for meat being concentrated in Kansas City or Chicago. This way of obtaining good wholesome meat at a reasonable price is called "an absolute calamity to any community from a financial standpoint." The AMERICAN ANALYST was the first to throw a flood of light upon the doings of these schemers. The absolute superiority of Chicago dressed beef and the animus of the attacks upon it were clearly shown by us. Our articles on the subject were copied far and wide by the newspapers of the country, and the consequences were soon manifested. As the people learned their true interest, they repudiated legislative help which they did not want, legislators soon learned that their constituents would not favor any such law-making, and the local inspection fallacy quickly fell into innocuous desuetude. Had a similar course been pursued when the oleomargarine laws were proposed those iniquitous and unjust measures never would have become a blot upon our statute books nor a precedent for competing foreign nations. It is not too late yet to obtain their repeal. All that is needed is to instruct the people. As the people and press set the key legislators will play the tune.

UNDRAWN POULTRY.

The custom of selling undrawn poultry, which still generally prevails, should be abolished as pernicious and dangerous. In former days, when cold storage was not yet in vogue, there could not be much harm done, but now it has become a serious hygienic evil and should be effectually stopped by legislation. Undrawn poultry cannot be kept even for a few hours without starting the processes of putrefaction. This poison is absorbed by the flesh, and therefore makes such poultry unfit for food. Keeping it in the atmosphere of cold storage warehouses, while it may arrest decomposition, will not undo the deterioration that has already taken place, and the instant such poultry is removed from the cold atmosphere putrefaction sets in again with greater force. In many instances such poultry has been kept for a year, and sometimes longer. What its condition must be we refrain from further discussing. Some time since the New York aldermen attempted to pass an ordinance to prevent the sale of undrawn poultry, but on a public hearing the dealers made it appear that drawn poultry, on account of its having so much more surface exposed to germs, would decompose more rapidly. This, no doubt, was true in one sense, but it was readily answered by the fact that no flesh is fit for human food that has been long exposed to germs. It is a poor argument to say that inasmuch as we must in any event eat putrefying poultry, that which is undrawn is the least likely to show its putrefaction. It is not exactly an appetizing subject, yet it is a very important one, and deserves popular agitation, until by applying the proper remedy

the public health is made more secure. Let us have a strict city ordinance against the sale of undrawn poultry, irrespective of the convenience and profit of the dealers.

"PRAISE FROM SIR HUBERT"

EDITORIAL OFFICE OF THE
"NEW HAVEN PALLADIUM,"
November 11, 1889.

Editors AMERICAN ANALYST: As a newspaper man, and one with a strong active instinct for good miscellany matter, I want to congratulate you on your publication. I can find in it more available items for my different departments than in any other exchange I receive. The ANALYST is certainly a unique and valuable periodical, and I feel sure that if you press its sale among classes who need its instruction, you will gather in thousands who are waiting only to see it before subscribing.

Fraternally,

AMOS P. WILDER.

The above warm commendation from a source with which we had never before been in communication otherwise than through the medium of our printed pages, is eminently gratifying and encouraging; the first, because it is always agreeable to receive appreciative praise, and, secondly, because the most desirable appreciation and praise are such as come spontaneously from a fellow-laborer in the same field of effort. That newspaper men should be the keenest critics of the quality of newspaper work, of course goes without saying. To meet that criticism and challenge its approbation, is to gain an important step in the way to the general acceptance of the public, which is the goal of all intelligent journalistic endeavor. We feel an especial pride, the statement of which we trust is not inconsistent with our native modesty, in the fact that the AMERICAN ANALYST is more extensively quoted and copied, with due credit given, by other newspapers, both here and in Great Britain, than almost any other weekly publication with which we are acquainted. We see these quotations not only in our regular exchanges, but our attention is frequently drawn to their occurrence in journals with which we do not enjoy such a relationship. But even more than of the favorable impression we have made upon our brother editors, we are proud of the successful hold we have gained, and are steadily increasing, upon the recognition of the reading and thinking public. The great community of "consumers"—the housekeepers of the United States—have learned to look to the AMERICAN ANALYST for information and instruction in the thousand-and-one problems with which they are daily confronted, relating to their comfort and physical needs, with the assurance of finding in its columns disinterested, practical advice on those points, such as they can nowhere else so readily obtain. The advertising community, always shrewdly on the alert, recognize this popular quality of the publication. An inspection of our advertising pages will show not only that all occupying space there are representative houses whose names are guarantees of the excellence of their productions, but it will also testify to the benefit our



patrons derive from identifying themselves with our enterprise, by their significant, we might almost say invariable, habit of year after year renewing their contracts. The success that has crowned our efforts of the past five years, justifies us in promising the steady introduction, as opportunity offers, of new features of interest, in the hope of making ultimately the *AMERICAN ANALYST* a welcome weekly visitor in every household in the land.

HOFF'S MALT EXTRACT.

Considerable acrimonious controversy has been carried on through the trade papers as to which of the two "Hoff's" Malt Extracts is the genuine. We have nothing to do with this question, but it may interest our readers to know what such an authority as Dr. Hermann Hager, the best known European writer on pharmaceutical subjects, has to say on the matter. Under the heading, "Malt Extract—health beer, Malt Extract of Johann Hoff of Berlin (a remedy in all diseases)," he says: "Originally (1861) a poor or watered fermented beer like Bavarian beer, adulterated with picric acid and extracts of various aromatics, such as coriander, cardamom, cinnamon, cassia, anise, etc. Later on the extractive matter in the beer was raised by the addition of glucose, glycerine and caramel. Although the presence of these ingredients has been denied by Hoff, it has been too often proven by analyses of competent chemists. The maker of this abominable slop evidently omits to add one or the other of these ingredients as the fancy takes him. The apparent beer extractive when this stuff first appeared was 4 to 5 per cent., but has gradually risen to 7, 8, 10 and 12 per cent." Further comment after what Professor Hager says is superfluous.

WOMAN WAGE EARNERS.

The American Economic Association of Baltimore announces that through the generosity of various persons interested in the subject, it has received \$500 to be awarded as prizes for the best essays on the subject of woman wage earners. The money is to be awarded in the proportion of \$300 for the first prize, and \$200 for the second prize. While the experience of foreign countries will not be excluded, it is expected that competitors will deal principally with the American aspect of the subject. It is desired to know the early and present condition of woman wage earners, their growth in numbers, both absolutely and in proportion to population, the present extent of their sphere of labor, the economic and social evils connected with their various

occupations as wage earners, and remedies for these evils. The essay must not exceed 25,000 words, and must be in the hands of the Secretary of the Association previous to Nov. 1, 1890. Each paper must be type written, signed by a fictitious name, and accompanied by a sealed envelope containing the name assumed as well as the address of the author.

THE MILK IN THE COCOANUT.

It is claimed that a German chemist has discovered in the cocoanut a fatty substitute for butter, and the United States consul at Mannheim, Germany, reports that the new product has begun to be manufactured on a large scale in that city. A single factory produces six thousand pounds of it per day, worth in the market fifteen cents a pound. The nuts used are obtained mostly from the South Sea and coral islands, Arabia, the coast countries of Africa, and South America. Natives in countries where the nuts grow have for a long time used the milk of these nuts instead of food oils. The butter contains sixty to seventy per cent. of fat and twenty-five per cent. of organic substances, of which ten per cent. is albumen. In a country where real butter runs all the way from twenty-five to thirty cents per pound, cocoanut butter at half that price is thought to have a great future before it. At present it is chiefly used in hospitals; but it is rapidly finding its way to the tables of the poor, particularly as a substitute for oleomargarine. It is free, also from germs of tuberculosis, which is said to afflict fully ten per cent. of the milk-giving cows in Germany. The consul recommends the adoption of this new butter as an article of manufacture in the United States.

THE QUEEN WINS.

HOW LOUIS XVI. FAILED TO APPRECIATE THE DISCOVERY OF BEET SUGAR.

The Bastille had not yet fallen. The thoughtless youth of the French aristocracy still danced through the saloons of the royal castles. Maurepas still reigned Prime Minister—that same friend of humanity who made the compassionate decision concerning the people's welfare: "Why build hospitals? Cannot the people die on the roads, if they like?"

This evening Maurepas had the honor of being permitted to lead the beautiful Marie Antoinette to the card table, but, complaining of a severe headache as they passed through the saloon, the good queen excused him from further attendance that the pain might not be increased. As he was hastening back through the ante-chamber to the dancing hall, where the king was taking his coffee, he perceived beneath the gobelin tapestry of the famous Louvois window a man in citizen's dress, who regarded him expectantly and bowed low before him.

"It is all right, Dumonet," whispered the asthmatic old man; "this evening his majesty will taste of it." And he forthwith thrilled out one of his hundred madrigals, which, in truth, were tame enough, but which his flatterers found very witty. In the royal apartment he saw just then Louis XVI. take from a sugar basin two delicately broken lumps of sugar and sweeten his coffee with them. As the king took a mouthful of the coffee the ministerial friend of the people approached and asked respectfully:

"How does your majesty find the coffee this evening?"

"As usual, excellent."

"The best mocha is always upon your majesty's table; but does the sugar sufficiently moderate the bitterness of the coffee?"

Louis XVI. was sensitive to mockery and irony even to timidity; therefore he said inquiringly:

"What do you mean by that?"

Maurepas laughed, "Your majesty, permit me one

question. How much, sire, do you think these two pieces of sugar cost?" The king looked uneasy.

"Do you wish to test my mathematical ability?" Maurepas continued to laugh. "Well then I will answer your problem: Sugar costs the people about eighty sous a pound. If I reckon 80 pieces to the pound it makes one sou for each piece; but since to me as king everything is quadrupled, I have this evening consumed eight sous worth of sugar."

"This sugar is the gift of one of your subjects, who counts himself happy that it is considered worthy of a place on your majesty's table; therefore it costs you nothing, sire, but the giver values every piece at a full Louis d'or."

"You are beside yourself, Monsieur de Maurepas, eighty Louis d'or for a pound of sugar! At that rate I should be compelled to sell Rambouillet to supply my brother with sugar for a year, for you know he takes a handful to every cup. But explain to me your jest."

"In a moment your majesty." And he took the sugar basin and emptied the contents upon the marble table and counted the pieces, "forty-three, with the ones used, forty-five, worth 1080 francs; but look, your majesty what dazzling whiteness and how light it is and how sweet, without any bitter after-taste."

"Come now," said Louis, interrupting his babble, "is sugar ever bitter?"

"And your majesty will never guess from what this sugar is made."

The king was not without some knowledge of chemistry; therefore he answered hesitatingly:

"Naturally from the sugar-cane."

"Pardon me, your majesty, it is beet-root sugar."

"Beet-root! What is beet-root?"

The Duchess of Chartreuse, who was listening, drew nearer and said, "Beets, sire, are little red leaves of which my servants make salad."

Monseigneur de Maurepas cut off her explanation with a malicious laugh. "Beets are edible roots, which people as well as cattle find palatable, and now they have been found to yield sugar."

Respect kept the brilliant company out of hearing distance and they watched eagerly the strange proceedings. All this examining, weighing and counting of the sugar tossed up the court gossip among them like a bright soap bubble. Who first whispered it?—"The king has been poisoned by a cup of coffee!"

"Heaven forbid! and we have drunk the same coffee!"

"No, not the coffee, it was the sugar."

"Some one go tell the queen!"

So whispered, murmured and chattered the excluded circle.

Marie Antoinette sat with the Duchess of Polignac, her tenderly-loved friend, at cards.

"What ails you, Agatha?" asked she kindly, as the favorite sighed.

Agatha de Polignac raised her roguish brown head and said saucily, "Three millions my adored queen!"

"Sigh not, my angel, I will beg Louis to grant them to you. We owe it to the great families."

The designing princess lifted the queen's lace sleeve to her red lips, whispered gratefully, "Oh! that I might be permitted to die for my beloved queen!"

"Live for me, you dear child, and, my word for it, I will provide the three millions, for which you will be willing to live."

At this moment a courtier approached and broke to them the dreadful tidings:

"His majesty has been poisoned by Monsieur de Maurepas with sugar."

A moment later the queen, white to the very lips, stood beside her husband.

"For heaven's sake, Louis!" cried she in her distress, unmindful of all ceremony.

"What is the matter, queen?" asked Louis in the gentle way which he never abandoned towards his beloved wife. "What brought you to me? You are very pale." He seized a glass of water, poured some of

the newly-discovered sugar in it, and handed her the glass.

"Drink! It is too warm in the saloon, and the company is too exciting; this sugar-water will refresh you."

The queen cast a penetrating glance at Maurepas, who now fully understood what he had only half heard. With a quick movement he took the glass from the king's hand and drained it at a draught.

Red with anger the king demanded an explanation of this insolence, but Marie Antoinette offered the minister her hand and was about to explain to the king, when suddenly the broad leaves of the great door flew open and the Palace Guard led in a man quite up to the feet of the king. The terrified appearance of the prisoner, his coarse coat, the brown waist-coat and pantaloons, the broad, clumsy shoes with leaden buckles, contrasted strangely with the gay silken attire, the gilded hangings, the laces and diamonds, of the surroundings.

"What does this mean?" asked the king astonished.

"Permit me, your majesty, to bring this man before you, who understands how to make sugar out of vegetables. Dumonet is trying to ruin our colonies and make them useless to us. This is the discoverer of beet sugar."

"Discoverer? No, that honor does not belong to me," exclaimed the Chemist Dumonet. "It was a learned Major Serre, who, during the Regency, deceived by the beautiful red color the beet gives out in cooking, fancied he could make red wine out of it. Instead of the desired wine he found the bottom of his retort covered with fine sugar. At that time France was rich in colonies on the Mississippi, therefore no one paid any heed to the discovery. Nor was it fully developed. I learned abroad, in Prussia, new improvements, expended my small possessions to test it, and I hope I have succeeded."

"It is not a poison then?" cried Marie Antoinette, meaningly. The king for the first time understood what had preceded, and discovered also that the chemist was bound. At a sign the bond was cut and the guard left the room without Dumonet.

Meanwhile the Queen bravely took a piece of sugar and put it in her lovely mouth. That was the signal for the young courtiers to rush upon the before distrusted sugar, vying with each other to exhibit their courage, their devotion through this harmless poison.

"Gently, my ladies, my lords," cried Maurepas, "every little piece of that sugar cost a golden louis."

"But the sugar is not one bit better than our ordinary sugar," remonstrated the queen, "and it is only a curiosity leading to ruin."

Dumonet dropped on one knee. "Your majesty is in a measure correct. Experimenting in a small way, at the same expense as a great trade, naturally makes this sample excessively dear; but if your majesty will advance me two millions for the development of larger facilities for manufacture, I shall be able to furnish a pound of sugar for ten sous, instead of four francs."

The king recoiled involuntarily, and Marie Antoinette grasped her famous necklace, which had cost two millions, as if the plain man before her had been a robber. Her disapproving glance gave direction to the king's answer.

"Dr. Dumonet, I honor enterprise; accept this snuff box as a recognition of it. But two millions the State cannot possibly lend you. That is too much money for the exhausted exchequer."

Dumonet received the gift respectfully. "Sire, sooner or later my enterprise will find the money."

The whole shallow, subservient swarm of courtier-lings cried out an excited echo of the royal words:

"Two millions for sugar! Two millions! The man should be in a mad-house. How can any one be so shameless? Just as if it were not all the same whether one pays ten sous or four francs for a pound of sugar; and if any can't pay it, let him take his food unsweetened."

"What has the government to do with that?"

And so Dumonet was dismissed. He had only needed one million; the second was the price demanded by the minister for the introduction. On this evening Maurepas composed the only good verse of his life, which, translated, runs somewhat thus:

"Altho' his life to sweeten
Is all his royal care,
Two million francs for sugar
The king finds rather dear."

The furore which his wit created at the court consoled him somewhat for the lost million, and was it not all the same whether at his death there should be a deficit of one paltry million, more or less? He left, in fact, a round ten million in debts. It was a noble sum; nine would not have sounded so impressive.

Dumonet migrated to Belgium, where he found more appreciation, and lived, safe and respected, while the revolution storm swept over his unhappy fatherland. "Who laughs last, etc."

"And my queen would have died with me?" asked Louis, as he accompanied her to their chamber that night. She was so beautiful, so dainty; in her wonderful eyes beamed the reflection of loving tears. The next morning the king granted three millions and a half out of the State coffers to the "unfortunate" Duchess of Polignac.

CORRESPONDENCE.

THE BOGUS CALIFORNIA WINE.

Gents: Regarding your article of California wines made in New York, appearing in No. 45 of your paper, I beg to say that probably for "valuable" reasons you forgot to mention the principal buyers, viz.: Roskam, Gerstley & Co.; L. B. Schuler, of Brooklyn; F. C. Neale and Morris Spiegel; also T. Altschul. Yours truly,
FAIR PLAY.

While we are not in the habit of noticing anonymous communications—and least of all, such as betray their Chatham Street old-clothing-dealer source by the use of the barbarism, "gents"—we feel disposed to depart from our custom in respect to the above effusion, in order to refute the covert innuendo its language conveys. We had reasons, in preparing the article referred to, though they were not of the "valuable" sort impertinently suggested by our postal card correspondent, for omitting the names of several buyers at the wine sale under consideration. The only means we had of ascertaining the names of the buyers at the sale were the auctioneer's books, from which we obtained our information. As the sale was for cash, no particular pains were taken by the auctioneer's clerk to record the names correctly, and in the majority of cases, apparently, they were written by him as they sounded. Of those given by "Fair Play," the name Roskam appeared on the books as Roskow and Roskof; that of Schuler as Schulloff. The other names did not appear at all, and if the persons bearing them bought anything at that sale, they must have done so under assumed names. After carefully referring to the city directory, as well as to the business directory, all the names that could be found therein as connected with the wine business were given. Not one of those named, either on the auctioneer's books or in the article in question, is known to any person connected with this journal, nor were they called upon.

NOVEL PRICE LIST.—A manufacturing company, of Cincinnati, is using a novel means of presenting its specialties to customers, by printing a price list of several pages in copying ink, the pages to be torn off and signed by a customer asking discounts, the added matter then all being made in copying ink, by the company, and a copy taken. By this means an exact record is kept, involving but little labor and one which cannot fail to be a great convenience in any following business transactions.

IMPORTED SALTS.

SOME VIEWS CONCERNING THE ALLEGED MINERAL BITTER WATERS.

The daily papers are filled with the loudest and most exaggerated sort of advertisements of the great virtues of such alleged imported mineral waters as the Hunyadi Janos, the Franz Joseph and Friedrichshall waters. An eminent German physician has just written an article on the subject which certainly reads like good common sense. He criticizes the manner in which these waters are advertised; says they are puffed like any nostrum, and even in strictly medical journals claims are made for them with which to induce medical men to recommend them to their patients, which should at once condemn them. This writer suggests that as the only virtue of these waters is in the sulphates of magnesia and soda they contain, to substitute for them these salts which are much cheaper and infinitely more safe and reliable in use. Professor Hager supplements this advice by furnishing a formula for a dry salt to be used instead of the varying imported waters.

	HUNYADI JANOS. Parts.	FRANZ JOSEPH. Parts.	FRIEDRICH- SHALLER. Parts.	PULLNA BITTER WATER. Parts.	BITTER WATER. Parts.
Bicarbonate of soda, fine powder....	10	15	5	10	10
Sulphate of soda, coarse powder.....	550	550	550	300	500
Sulphate magnesia, crystals.....	500	550	450	300	500
" potash, fine powder.....	2	...	8	5	19
" lime, " ".....	...	15	60	..	..
Chloride of soda, dry crystals.....	20	20	320	20	20
" " potash, coarse powder.....	...	..	160	..	..
Of the mixture use to one quart of water grammes.....	100	110	40	30	100

Professor Hager gives these formulas, but recommends that the sulphate of lime be omitted, as more likely to be harmful than beneficial. If it is desirable to have carbonic acid gas, plain carbonic acid gas water may be used with the salts. The mixtures of the salts should be kept dry. Any druggist can make them. A proper dose of the salt mixtures is 15 grammes or about half an ounce.

A NOVEL IDEA.—Hon. A. S. Hewitt, ex-Mayor of New York, is erecting a dwelling house at his country seat, at Ringwood, Passaic County, N. J., which for cheapness, originality, durability and fire-proof quality will probably excel any structure ever erected. Mr. Hewitt first erected a balloon frame. This he covered, inside and out, with woven wire fire-proof lathing. On this he placed a moderately thick coat of adamant plaster, serving the roof in the same manner. As a result, he will have a stone house, positively fire, damp and vermin proof, at less than one-half the cost of a cheap frame building, and a thousand times more durable.

CALIFORNIA INDUSTRIES.

(Continued.)

THE REDWOOD FORESTS.

But few persons have an adequate conception of the magnificent part redwood timber is destined to take in the near future in the markets and lumber industries of the United States. The California redwood, for symmetry of growth, productiveness of merchantable lumber to the acre, beauty of finish, durability, and general adaptability for variety of uses, is without a peer among the conifers for the general uses of civilized life. The eastern reader who has never seen a California redwood forest may be astonished to learn that one tree measured 349 feet nine inches in height, and another 19 feet in diameter underneath the bark, and the yield of one measured acre scaled in milled lumber 1,431,530 feet board measure. There are thousands of acres that will yield this amount. All Eastern lumbermen are familiar with the enormous losses by fire each year in pine lands. The immunity of the redwood from forest fires, is also peculiar to its congener, the *Sequoia Gigantea*, the famous big tree of the California Sierras. The botanical name of the redwood, *Sequoia Sempervivens* is appropriately suggestive of the resistant powers of the wood against fire and decay, as well as of the tenacity with which the redwood stump clings to its maternal lap of earth, and sends up a multitude of shoots and suckers when the tree has been felled. We do not say that the redwood tree is a salamander, or that the wood will not burn under any circumstances. When properly split and seasoned, redwood burns well and is a favorite with the housekeeper for kindling purposes in building fires. The immunity of San Francisco from extensive fires has been largely attributive to the extensive use of redwood for building purposes. There is absolutely no resinous gum in redwood, and a single dash of water from a hose will, in an instant, change the blazing side of a building into a fireless, blackened wall without a spark remaining. Mr. Allan McKay, of Eureka, gives the average yield per acre in some land near by at not less than 500,000 feet. Average the value of this at \$15 per thousand feet, and we have \$7,500 per acre. This is nearly ten-fold of the whole assessed value of property in California, and thrice the value of all the gold and silver mines of the Pacific Coast since 1848. There would be, therefore, more value in the redwood of the northern counties, than in all the gold found in all the mines of all the counties of California, from pioneer times to the present day.

The enormous productiveness of the redwood timber land of California is amazing to any one whose experience has been limited to pine lands. The average size of the trees is six to eight feet in diameter, occasionally running up to twenty feet, with one to two hundred feet of trunks free from knots or limbs. With such standing timber as this, the large proportion of clear lumber is apparent to any experienced lumberman. The yield is from fifteen to twenty times greater than of average pine lands. A plank recently shipped from California, ten feet in width and twenty feet long, would be an impossibility elsewhere than in the redwood forests. Items of the wonderful yield of single redwood trees are of frequent occurrence in the California press. As an illustration, a Sonoma County paper, in a recent issue, instances the fact that one of the largest churches in Santa Rosa, a city in that county, of over 7,000 population, was entirely built, including inside finish in wood instead of plaster, from a single redwood tree. In addition to building the church, 60,000 shingles were taken from the same tree. Another redwood tree in the same section has kept two men busy for two years in cutting it up into shingles. For architectural art, especially for interior finish, where rich, warm colors, beauty of grain and easy susceptibility to polish are desired, redwood is fast winning its way into favor. In California, redwood is almost exclusively used for outside rustic work

and general covering to buildings, and one of its merits is, that it does not hold fire when exposed to that element, a single dash of water extinguishing fire in it completely. Another merit which commends redwood to builders is the fact that it does not warp or shrink from exposure to the weather. Tight joints and a permanently neat appearance are thus assured by its use. For fine cabinet work redwood is becoming popular in an increasing circle of manufacturers. Nothing can be handsomer than the rich brown, warm effect and satin finish of selected redwood. Walnut, mahogany or rosewood are far inferior in pleasing effect to a good redwood buhl veneer with its charming intricacies of grain, or a selected piece of "curled" redwood, or the root of the tree. Redwood must soon be a necessity in the Eastern States as a finishing wood. California has a magnificent heritage in her redwood lands, and the man who secures a redwood tract and holds and uses it judiciously, has a better thing than national bonds or stock securities of any kind. During the last seven or eight years a quiet and growing movement in the way of acquiring redwood lands has been going on. By direct location from the Government and by purchase from holders of small claims of one hundred and sixty acres in many instances, the tracts on which mill owners depended for their supply have been taken and centered in the hands of moneyed men. When too late mill owners have awakened to the knowledge that the land they needed, and which, had they taken time by the forelock, they could have got at a small advance at the Government price, is unavailable to them except on the terms of men who can afford to keep them until they get their own price. It is plain to be seen, that in such cases the man who owns the land makes the money. There are many opportunities still left in the redwood country for the initiated ones to secure tracts that will bring fat returns. The area of redwood forests in California has been placed by Professor Kellogg, of the University of California, who has devoted much attention to the matter, at about three thousand square miles. Half of this limited area has been cut over.

MALT.

A PLAIN DESCRIPTION OF THE PROCESS OF CONVERTING BARLEY INTO MALT.

The process of malting, or the conversion of barley into malt, is accomplished in four successive steps. The first step is steeping the barley, which consists in introducing the grain into a large wooden or stone cistern and adding thereto as much water as will cover it. On being thus treated for twenty-four hours, the grains of barley absorb the water, and the contents of the cistern near the top even begin to feel dry. The barley swells up much, so as to increase considerably in weight. The amount of water that barley takes up in the steeping affords good evidence of the excellence of the grain. Thus, the better kinds of barley, on the average, take up sufficient water to increase their weight one-half. Occasionally, however, the increase is not more than one-tenth. The time during which the grain lies in the steeping-cistern is about forty hours, when the excess of water is drained off; but a regulation exists that the cistern cannot have a second charge of barley till four days have elapsed after the introduction of the first charge. The second step is termed couching. The grain is thrown out of the steeping cistern in a heap on the floor. At this stage the barley is soft, and when pressed between the fingers it is readily bruised. It lies in the couch or heap for twenty-six hours or so, and during that time it rises in temperature about 10 deg. F., and gives out some of its extra water. This *sweating*, as it is called, is the result of the partial germination or growth of the barley, and little rootlets or fibrils of the radicle, and a primitive stem, begin to form and present themselves. As the temperature rises, the radicles lengthen rapidly, and means are then taken to

check the germination. The third step is flooring. The heated barley is spread by the workmen with spades on the floor to the depth of about fifteen inches at first. It is repeatedly turned and respread over a large area with a thickness of layer decreasing to six inches. At this stage the radicles have attained their greatest length. The fourth step is kiln-drying. The half-germinated barley is now introduced into a kiln, on the perforated floor of which it is spread. The apartment beneath the kiln-room is fitted up with stoves which evolve much heat; and this rising and passing through the slits or perforations in the floor of the kiln necessarily dries any moist barley laid thereon, and the steam escapes through a pipe through the roof. The heat which the barley is subjected to in the kiln is, at the commencement, 90 deg. F., but this is gradually raised to about 150 deg. While drying, the radicles break off from the grain and are afterwards removed by a wire sieve. The color which the barley assumes as it becomes dry malt in the kiln is determined by the heat to which it is subjected, the higher temperature yielding the darker-colored malt. During the conversion of barley into malt, a loss of material occurs. Thus 100 parts of barley yield 80 parts of malt; but as the 100 parts of barley contain 12 of water, it follows that there are present only 88 parts of dry matter, and these yield 80 parts of dry malt, giving a loss of 8 per cent. of the original weight of the barley. While there is a decrease in weight, there is an increase in bulk, 100 measures of barley becoming 101 to 109 measures of malt. Certain chemical changes likewise occur as the barley is transformed into malt, which may be noticed by the following table:

	Composition of Barley.	Composition of Malt.
Hordein.....	55	12
Starch.....	32	56
Sugar.....	5	15
Gluten.....	3	1
Gum.....	4	15
Resin.....	1	1
	100	100

The principal chemical change is, therefore, the transformation of much hordein (a form of starch) into starch, gum and sugar. The mechanical condition of the contents of the grain is also altered. The grain is now of a fine mealy nature, between the fingers, when the flour in the interior is found to be soft and distinctly sweet to the taste.—*New England Grocer*.

ABORIGINAL MINING.

ANTIQUITY OF SOME AMERICAN MINING WORKS.

Writing on "Ancient American Mining in North America," Professor Newberry speaks, in the *American Antiquarian*, of the great antiquity of the aboriginal works. The ancient copper mines on Lake Superior were abandoned not less than four hundred years ago; for the heaps of rubbish around the pits made by the ancient miners were covered with forest trees that had reached their largest size. The old mica mines of North Carolina and the quarries of serpentine in the Alleghanies showed like evidences of antiquity. Some population in the Mississippi Valley worked the oil fields in various places. The author, visiting Titusville in 1860, when the first well had been opened, noticed pits in the ground, which proved to be relics of the excavations of primeval oil gatherers. A citizen, digging a well in one of the pits, had discovered and followed an old well, which was cribbed up with timber, and contained a primitive ladder like those which have been found in the old copper mines of Lake Superior. The cribbing had been rudely done with sticks from six to eight inches in diameter, which had been cut or split by a very dull instrument, "undoubtedly a stone hatchet." The oil was probably gathered by being skimmed from the water that collected in the bottom of the pit. Traces of a similar well were observed at Enniskillen, Canada, and depressions in the surface like those on Oil Creek

were noticed at Mecca and Grafton, Ohio. Ruins of an ancient lead mine exist on the Morgan farm, near Lexington, Ky., in the form, where they have not been disturbed, of an open cut, from six to ten feet wide, "of unknown depth, and now nearly filled with rubbish. On either side of this trench the material thrown out forms ridges several feet in height, and these are everywhere overgrown by trees, many of which are as large as any found in the forests of that region." Galena has been found in many of the ancient works in Ohio, but has never been smelted, and appears to have been valued merely for its brilliancy. Dr. Newberry does not believe that the mound builders were of the present Indian stock.

BEET SUGAR.

ITS HISTORY, QUALITY AND CHEMICAL COMPOSITION.

About the middle of the eighteenth century Marggraf made the important discovery that the sugars of the juices of beets, carrots and certain other fleshy roots are identical with one another and with the sugar of the cane. Proust, another investigator, showed that all sweet vegetable juices owed their sweetness to one or more of only three species: cane sugar, grape sugar and (amorphous) fruit sugar. Honey was found identical with grape sugar. A number of new sugars similar to these three have been discovered since, but none are at all widely diffused throughout the organic kingdom. Milk sugar was isolated and its individuality proved in 1619 by Fabrizis Bartoletti. It may be stated here that cane sugar, originally coming from India, was known before the seventh century. The sugar beet is a cultivated variety of *Beta maritima* (natural order Chenopodiaceae), other varieties of which, under the name of mangold or mangel wurzel, are grown as feeding roots for cattle. The plants are cultivated like turnips, and the roots attain their maturity in about five months after sowing, being gathered during September and October. The efforts of growers have been largely directed to the development of roots yielding juice rich in sugar; and especially in Germany these efforts have been stimulated by the circumstance that excise duty on inland sugar is there calculated on the roots. When this sugar is exported from Germany a drawback is paid for that on which no duty was actually levied, and hence indirectly comes the so-called bounty on German sugar. In France till recently the inland duty was calculated on the raw sugar; hence the French grower raised roots of a large size, and had no motive to aim at rich juice and economical production. Since 1884 the French manufacturers have had the power to elect whether duty shall be levied on the roots they use or on the raw sugar they make, and a large proportion chose the former. The nature of the seasons exercises much influence on the composition of sugar beet, especially on its richness in sugar, which may range from 10 to 20 per cent. The following represents the limits of average composition:

Water { 84.5 to 79.0 } Juice.
 { 11.5 to 17.0 }

Sugar and other soluble
bodies, cellulose and
other solids. } Solids... 4.0 to 4.0

Two distinct ways of obtaining the juice from beet are now principally employed—pressure and diffusion. The former is principally used in France, the latter process is all but universal in Germany. Formerly a modified diffusion process—maceration—was in use; but it has now been generally abandoned, as also a means of separating the juice by centrifugal action. The limits of an article of this nature prevent our going into the details of the pressure or diffusion process, the purification of beet juice, crystallization or the separation of the crystals from molasses. When beet root sugar reaches the refiner he deals indifferently with raw cane and beet root sugar, and by precisely the same series of operations. There are numerous modified and subsidiary processes connected with refining, as well as with all

branches of the sugar industry, regarding which it is not possible here to enter into detail. One of the strong competitors of beet sugar is sorghum sugar, the stem of the guinea corn (*sorghum saccharatum*), which has long been known in China as a source of sugar. The sugar is obtained by the same method as cane sugar. Sorghum has not found much favor in the United States, the total yield not averaging more than 60,000 lbs. annually. Though the agricultural department has always seemed to encourage the cultivation of sorghum more than sugar beet, the farmers do not seem to have taken to it so readily. At the present time, judging by the amount sent to market, cane and beet sugars are produced in about equal amount; but as there is a large amount of cane sugar grown and consumed in India, China and other Eastern countries of which we get no account, there cannot be a doubt that the annual production of cane far exceeds that of beet sugar. Still, as a growth of not more than forty years, the dimensions to which the beet sugar trade has attained are certainly remarkable. These dimensions would not have been so suddenly attained had it not been for the system of protection and bounties established in the producing countries. The largest beet sugar producing countries range in about the following order: Germany, Austro-Hungary, France, Russia, Belgium, Holland, United States. The cane sugar producing countries range as follows: Cuba, Java, Brazil, Manila, Mauritius, Demarara, Louisiana, Trinidad, Porto Rico, Barbadoes, Martinique, Peru, and several of smaller production than 35,000 tons per annum. At present, owing to improved processes, beet sugar has largely driven cane sugar out of Europe. Beet sugar manufacture was first attempted in the United States, in Philadelphia, in 1830. At that time the European beet yielded only 4 to 5 per cent. of sugar, though the present yield is as high as 14 per cent. In 1863 a large factory was established at Chatsworth, Ill. Other factories have since started in that region, but none have been very successful. In 1870 the Alvarado Sugar Company was formed in California. Other companies have since been established with good prospects of success. They have all met with difficulties. There are obstacles in making beet sugar which do not exist in the case of cane. The product of sugar is but two-thirds that of cane, while the juice is highly charged with impurities which need removal by expensive processes. The total annual product of beet root sugar in this country is estimated at 2,000 tons, but there are indications of a steady increase. Of the total world's product of sugar it was estimated that 66.47 per cent. was cane, 27.87 beet, 4.29 palm, and 1.28 maple. A few years ago the United States produced in one year 2,137,667,865 lbs. of cane sugar, 41,440,000 lbs. maple, 1,344,000 lbs. beet root, 896,000 lbs. sorghum. Mr. Claus Spreckels has given the beet root sugar industry a fresh impetus by the establishment of large factories in California and Pennsylvania. With new and improved machinery, a large experience gained from former experiments, and reasonable advantages of soil, climate and cultivation methods, it is to be hoped that the beet root sugar industry of this country will yet attain the importance it seems to deserve.

NO END OF GAS.—The Professor of Geology in the University of West Virginia declares that the rumors of failure of natural gas are idle and have no foundation. From his protracted study and investigation of these regions, aided by the best scientific light on the subject, he asserts that the production will largely increase for years to come.

CLOTHING.—Clothing possesses no warmth in itself, but as it is more or less a poor conductor of heat, it prevents the escape of the bodily warmth. Woolen fabrics contain a large quantity of air entangled in their meshes, which, being a poor conductor of heat, adds considerably to the warmth of clothing made from them. In hot weather we wear light cotton or linen clothing so as to allow as much of the bodily heat to escape as possible.

THE BISON.

THE HERD OF TEN YEARS AGO NOW ALMOST EXTINCT.

Stretching away for many miles from the western base of the hill was a plain, as level and unbroken as a sleeping lake. Far, far as the limit of human vision extended was scattered a vast drove of the long and eagerly expected buffaloes. To count such a herd, or even to guess approximately their number, was a task about as hopeless as to compute the leaves of a great forest. The ground was literally swarming with them, and their dusky, shaggy, grotesque bodies, thickly mingling and blending, scattered away indefinitely into the misty distance, until, like a black cloud, they faded away into earth and sky at the remote line of the horizon. Each huge creature was in restless motion. Some browsed on the luxuriant herbage: some wallowed in the moist earth; some gambled or engaged in playful contests. A subdued, continual roar was heard arising from the moan-like bellowing of the countless drove. The hoof strokes of the myriads of feet also produced a dull, heavy sound, which, combining with the other noise, reminded one of the distant lash of the surf on a rock-bound coast; only there was no ebb and flow—the sound was unbroken. The endless movements of the herd were as kaleidoscopic as the tossing of the troubled deep. On both sides of the road this mighty host grazed, browsed, wallowed and played, totally unconscious that human eyes were gazing on the scene. It was a spectacle that filled every breast with varied emotions—wonder, surprise, curiosity, apprehension (for all had read about or heard of the fearful stampedes of buffaloes), not unmingled with awe.

SLAUGHTER-HOUSE ECONOMY.

HOW THE ANIMAL CARCASS IS ALL UTILIZED.

The *Sunday Call* editor has discovered that after a steer goes to a Newark slaughter house nowadays, the only thing that is wasted is his dying breath, and if it were possible to find some use for that, no doubt it would be caught and preserved. Nothing else is wasted, from the tip of the tongue to the brush on the end of the tail. The blood is caught and sold to make albumen for sugar refiners and other manufacturers, one use of it being the cheap substitute for hard rubber and other plastic material used in the manufacture of buttons and other materials. Next the hide is taken off, and after the meat is dressed, the contents of the stomach are removed and dried and bailed for manure, and the stomach itself is prepared as tripe. The hide goes to the tanner, the head is skinned and denuded of flesh for the sausage maker, the horns are knocked off and go to the combmaker, who knocks out the pith and sells it to the glue manufacturer, who is ever ready to take all the refuse from any part of the steer. The horny coverings of the hoofs are almost as useful as the horns for making buttons, etc., and the feet make oil and glue. The shin bones make the finest bone handles for various purposes, and all the remainder of the bony structure which the butcher is unable to sell with the meat finds its way eventually to the manufacturer of bone fertilizer and bone black. With the bones there is usually considerable marrow, grease and glue stock, all of which is used by the bone men in various ways. A few of the tails are absorbed in cold weather in the manufacture of ox-tail soup, but usually "the tail goes with the hide," and becomes spoiled for domestic use while lying around the tannery. Every scrap of the skin of the animal, even the pate, as the skin of the head is called, is used in one way or another, and the refuse of the tanneries forms an important part of the income of the establishments.

Subscriptions \$1 per year Now is the time to subscribe.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE
LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

November.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

CLEAR BEEF TEA.—Put one pound finely chopped beef in a soup pot, and with it a bit of bay leaf, a little parsley, celery, and half an onion. Cover it with a pint of cold water and place the pot where the soup will scarcely simmer, for a little more than an hour, let it boil up and skim well, then set back to simmer for a couple of hours. Strain out the vegetable and season. To clarify, pour into the strained soup half a cup of cold water in which the white and shell of an egg have been well mixed, and let boil for ten or twelve minutes; add a little cold water and let it boil again, strain through a cloth and serve.

OYSTER PATTIES.—Take twenty-five or thirty oysters that are small and fresh, and let them boil in their own liquor, skimming well, for a few moments. Strain them quite dry, mix together about a tablespoonful of butter and a tablespoonful of flour, put over the fire and let cook for a moment. To this add a full cup of sweet cream and the liquor drained from the oysters, and season to taste with nutmeg, cayenne pepper and salt. Let boil ten or fifteen minutes, being careful not to burn; then strain and add the oysters, and if you like a bit of butter. Fill the patty shells which have been heated just before serving.

LEFT-OVER SALMON PIE.—Take out all skin and bones from the salmon. Mash some potatoes, making them light and palatable with milk and butter, pepper, salt and the beaten yolk of an egg. With this line a pie plate, put over it pieces of the fish, moisten with fish sauce, add another layer of the potatoes, and brown in the oven.

SAGO PUDDING.—Having buttered a pie dish thickly, put into it a teacupful of ground sago. Add two tablespoonfuls of sugar, and a little grated nutmeg, or lemon. Then nearly fill the dish with boiling milk. Pare and core two large apples, slice them into the pudding, place a lump of butter on it and bake in a gentle oven.

JELLY ROLLS.—Mix thoroughly together when dry, one cup flour, one teaspoonful Horsford's Baking Powder, and sift. Then add one cup sugar, four eggs, and one tablespoonful cold water. Bake quickly in long shallow tins, and as soon as it is ready to slip from the pans, spread jelly on the bottom and roll up; then roll a napkin tight around it until cooled.

PARSNIP CROQUETTES.—Boil some parsnips and then mash them adding a little butter, and milk or good gravy. Mix thoroughly and let it get cold. Then shape it into the form of corks, dip in egg and bread crumbs, fry in boiling lard.

SQUARE POTATO CAKES.—To two cups of mashed potatoes add a teaspoonful baking powder, a little flour, salt and pepper, and enough milk to enable you to roll it out very thin. Cut into squares and fry on the griddle.

CORRECTION.—By an inadvertence unusual to us, but none the less to be regretted, the recipe for pumpkin pies, in our issue of October 17, on page 496, states that the quantity given is sufficient for four pies. It should say one pie.

AMERICAN RAISINS.

MALAGA VINEYARDS FAILING AND THOSE OF CALIFORNIA IMPROVING.

According to Mr. A. B. Knapp, a vineyard owner from Napa, Cal., all raisin growers who have not signed contracts for this year's crop would make small fortunes. "The crop of the province of Malaga," said he, "has fallen off in half a dozen years from 1,900,000 to 700,000 boxes, and the shipments to the United States have declined from 1,000,000 to 112,000 boxes. Spain is no longer a competitor, and the recent storms in California have cut down the product by one-half. This shock struck the market after most of the Malaga crop had been disposed of, thus leaving a large deficiency hard to overcome. Prices will boom, and owners who have saved but a fractional part of their crop will realize as much as if they had the entire crop to sell. Our State now stands at the head of the line in producing raisins. One acre in our country will produce more grapes than three Spanish acres, and no climate is equal to ours for curing raisins. California has not only conquered the American market, but is stretching out for the markets of the world."

FASHION'S FANCIES.

THE LATEST THINGS IN ORNAMENTAL STATIONERY.

The following recital of the novelties in the line of stationers' goods this season is taken from *Geyer's Stationer*, the best local authority on that subject:

A beautiful speckled trout does duty as back and handle to a clothes brush. Three racing skiffs all in a bunch with oarsmen pulling for dear life make a neat silver bronze paper weight. A candle end, a half-used stick of ceiling wax, two burnt matches and a mouse are the details of a unique bronze paper weight. Bright with changeful metallic hues is a tray for an ink set made of olive wood simulating a turbot. The colors are laid under the polish. A card receiver simulates a shallow wicker basket in white silver bronze; on the rim is a cute, saucy little wren in natural colors. Realism *en extenso* is seen in a pair of old boots out at the toes and down at the heels, which serve as a hanging receptacle for matches. A Chinese mandarin with long pig-tail, mustache, almond eyes and finger laid against his nose makes a unique paper knife; his long skirts form the blade. A smokers' set consists of three thimbles standing on an ebony tray. A pair of scissors for cutting cigars and a match lighter are attached to the tray. An admirable imitation of three white cuffs fastened with gold buttons form, with the tray on which they rest, a very neat and serviceable smokers' set. Among odd and pretty German "favors" are perfume bottles made to simulate English walnuts. Ribbons or cords and tassels attach them to a button, or to the wrists of the dancers. On an old-fashioned blue plate lies a great, "rare-ripe" peach with its rich green foliage. The peach is a desk pin-cushion, and an old-fashioned, black-table knife which accompanies it does duty as a paper cutter. Novel in the extreme, and very perfect, is a tortoise with head and feet protruding from the shell. The reptile carries a cut-glass ink stand on his back. An elephant, with raised trunk and other evidences of excitement, makes a spirited paper weight, as, also, do two monkeys mounted as jockeys on two racing dogs.

A HEAVY METEORITE.—The heaviest purely metallic meteorite known, is the "thunderbolt," of the Arab Sheik, Kalaph Ben Assab. It fell in Central Arabia, and is one of the ten known meteorites that have been seen when falling. It was bought by English authorities, who have since caused it to be chemically analyzed. It contains 91.04 per cent. of iron, 7.40 nickel, 0.66 cobalt, traces of copper, phosphorus, and 0.39 of amorphous carbon. Its weight is 120 pounds. Much larger stony meteorites are known, including one of 25 tons.

CATARRH.

The word catarrh is derived from a Greek word meaning to flow down, and is a term employed to describe a state of irritation of the mucous membrane of the air passages, or what is called, in popular language, a cold. This complaint, so prevalent in damp and cold weather, usually begins as a nasal catarrh, or coryza, with a feeling of pressure about the forehead and some degree of difficulty in breathing through the nose, increased on lying down. Fits of sneezing accompanied with a profuse watery discharge from the nostrils and eyes soon follow, while the senses of smell and taste become considerably impaired. There is usually present more or less soreness of the throat and bronchial irritation, causing hoarseness and cough. Sometimes the vocal apparatus becomes so much inflamed (laryngeal catarrh), that temporary loss of voice results. There is always a degree of feverishness and discomfort, and frequently an extreme sensitiveness to cold. After two or three days the symptoms begin to abate, the discharge from the nostrils and chest becoming thicker and of purulent character, and producing, when dislodged, considerable relief to the breathing. On the other hand the catarrh may assume a more severe aspect and pass into some form of pulmonary inflammation. A peculiar catarrhal affection occasionally occurs, in an epidemic form, to which the name influenza is applied. Many persons appear to think that they can get rid of a cold most quickly by continuing to go about, and, happily in the majority of such cases, no harm results. It is always as well to remember that "neglected colds" sometimes bear evil consequences. Such, at least, is the experience of every physician.

The term catarrh is now used in medical nomenclature in a still wider sense than that mentioned above, being employed to describe state of irritation of any mucous surface in the body, which is accompanied with an abnormal discharge of its natural secretion, hence the terms gastric catarrh, intestinal catarrh, etc. Many remedies have been proposed with a view to cutting short a catarrh, but none of them are infallible, even when they can be safely employed. Entire abstinence from liquids of every kind for a period of forty-eight hours has been recommended as sufficient to cure any catarrh; but few will be found who are willing to submit to such a regimen. Some believe in the adage of feeding a cold and starving a fever, and make that an excuse for indulgence, not only in food, but in sundry alcoholic beverages, popularly supposed to have a curative effect upon a cold. A little reflection will convince any one that the true method of cure is to clear the way for nature to show her benign influence. Keep the digestive apparatus and bowels in good condition, relieve the irritation to the mucous surfaces, reduce inflammatory symptoms, and tone up the system. No better preparations for this purpose exist than those of Dr. J. C. Ayer, of Lowell, Mass. Dr. Ayer's Cathartic Pills put the digestive apparatus in good order without producing irritation. Dr. Ayer's Compound Sarsaparilla acts as a gentle alterative, relieving mucous surfaces, and Dr. Ayer's Cherry Pectoral exerts a healing and soothing influence upon the bronchial membranes. In all these remedies the reader will find a combination of the best materials, skillfully compounded from an experience of many years, and sold at a price within reach of all.

HUDSON RIVER TUNNEL.—Two hundred and fifty men are constantly at work on the great tunnel under the Hudson river at New York city. The whole will probably be completed within the next fifteen months. There are \$4,000,000 of British capital in the enterprise.

MOISTURE IN FLOUR.—Professor C. Richardson, of the agricultural department, says that the average amount of water contained by flours of eight Eastern States which he examined was 12.49 per cent., while Minnesota and Dakota flours only contained 8.96 per cent. From these figures he deduced that, "other things being equal, a barrel of Western flour would make more bread than a barrel of Eastern flour."

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

VIBRATING HOUSES.—The *Pittsburg Dispatch* relates an interesting example of preventing vibrations by discord in the case of a 10 horse-power engine, which on the upper story of a silverware manufactory created such a commotion as to rattle the silverware on the shelves a hundred feet distant. A change of twenty-five revolutions in the speed, which change was in the direction of increasing the speed, entirely stopped the vibrations.

PEAT CANDLES.—"Peat" candles are not made of peat, but of the paraffine that is distilled from peat in Brazil, where it is more plentiful even than in Ireland. According to the *Comercio des Amazonas*, John Grant & Co. are now having machinery installed at their works capable of producing 80 tons of peat paraffine a month. They are also extracting from the turf a valuable lubricating oil. They employ 300 workmen, and have 33 boilers, with purifiers, stills and refrigerators in their plant.

BUSINESS NOTES.

BUFFALO LITHIA SPRINGS.

The waters of these celebrated springs have lately become known to physicians as very serviceable in the treatment of the desire for ardent spirits, and as an antidote for the opium habit. It is not claimed, certainly, that this water is a specific against the thirst for, or the imtemperate use of, alcoholic drinks. It is unquestionably true, however, that, by virtue of their decided properties as a nervous tonic and stimulant, it supplies, to a certain extent, the nervous craving for a stimulant (the result in many instances solely of nervous exhaustion), and thus acts as a preventive of that feeling of necessity or desire for the use of strong drink which impels many to it, despite their own judgment to the contrary. It is undoubtedly one of the most potent of known antidotes to the pernicious acids of wines and liquors, and a preventive of their injurious effects upon the system. As this water, by virtue of its nerve tonic and stimulant properties, lessens the nervous craving for ardent spirits, so, upon the same principle, it lessens the nervous craving for opiates, and is an important adjunct to the physician in the treatment of the opium habit.

PARIS EXHIBITION.

W. R. Warner & Co. have received a silver medal at the Paris World's Fair, being the highest of its kind, in recognition of the following claims: 1.—W. R. Warner & Co.'s Pills, quick solubility and accuracy. 2.—Reliability and permanency unsurpassed. 3.—Perfection in coating, thorough composition and accurate subdivision. 4.—Excellence in solubility of the finished product in from 4 to 6 minutes. 5.—Quinine Pills, for accuracy in weight and purity of material. Also, for Warner & Co.'s Effervescent Salts: 1.—Superior effervescing properties. 2.—General elegance and excellence. 3.—Stability of the effervescing quality sustained by critical examination. This is the 13th World's Fair Medal which attest to their superiority. Physician's should be careful to specify Warner & Co.

FOR DYSPEPSIA

USE HORSFORD'S ACID PHOSPHATE.

Dr. Lorenzo Waite, Pittsfield, Mass., says: "From its use for a period of about eight weeks, to the exclusion of all other remedies, I attribute the restoration to health of a patient who was emaciated to the last degree, in consequence of nervous prostration and dyspepsia. This patient's stomach was in such an irritable condition that he could not bear either liquid or solid food. An accomplished physician of many years' experience, whom I called in consultation, pronounced his case an incurable one. At this stage I decided to use Horsford's Acid Phosphate, which resulted as above mentioned."

JOHNSON LOCKE MER. CO.
Shipping & Commission Merchants,
SAN FRANCISCO, CAL.

Agency at **PORTLAND, ORE.** Agency at **LOS ANGELES, CAL.**

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins, Walnuts, Almonds, Dried Grapes, Borax, Barley, Mustard Seed, Salmon, Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure
state of the blood. An antidote for **MALARIA**.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

Sura Cura

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

PICTURES.

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,

at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
47 West Twenty-Second St., New York.



Size 6 in. in height.

Patented Sept. 25, 1881.

WHOOPING COUGH CURED

Or Prevented by Page's Vaporizer and Cresolene.

We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for **Whooping Cough**, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it.

Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION,** NEW YORK.



TWELFTH SEASON.

MRS. McELRATH'S

Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams,
Pickles and Mince Meat.

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circulars, with references and prices, sent on application. Address,

Mrs. SARAH S. McELRATH,

393 Degraw Street, Brooklyn, N. Y.

VALUABLE TO ADVERTISERS.

You have determined to make money by vigorously pushing your business. As the AMERICAN ANALYST has determined to do the same thing, we have a community of interests. Our way of making money is to increase our circulation, and we can only do so by publicity; that is, by bringing our journal to the notice of a great number of people, who have the intelligence to appreciate a good journal when they read it and the money to buy what they want. You must necessarily want to reach the same class. Even if you do not sell directly to the consumer, it is necessary for you to tell the consumer of the quality of the goods you have to offer to induce him to ask the dealers with whom he trades for them. We propose this Fall and Winter to send a sample copy of this journal to the address of every person in the United States whose name we can find in any of the *elite* directories or blue-books of the various cities and villages. We will thus reach several millions of new readers in addition to our already large subscription-list, covering every State in the Union. Previous experience with this method of getting new subscribers war-

rants us in undertaking the expense, believing that it will pay us. This large addition to our circulation will put any advertisement in our columns before a multitude of readers. Our advertising prices remain the same, and are so arranged as to give the lowest rates to larger and longer-continued advertisements, and will be sent on application. All respectable advertising agencies will take orders for us. If we find this system profitable, advertisers surely will. Those who have advertised with us always renew as their season comes around, and you will do the same when you have tried it. We have found that in the great competition now existing we must keep our journal prominently before the public, and, in our mutual interest, we ask you to join us. Our system is more effective than a circular, and you will find it just as effective for your business and the cost very much less. Try us. For any further information write, and it will be forthcoming.

The ANALYST PUBLISHING CO.

19 PARK PLACE,

NEW YORK.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

**The Edge Hill Wine Co.,**

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.

TRADE MARKS.

We have had a long experience in the matter of Trade Marks, and protection against Infringements and Imitations. Any further information may be obtained by addressing the

AMERICAN ANALYST,

19 PARK PLACE, NEW YORK.

**BLAIR'S PILLS**

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval 833 94 round box 14 pills. At all druggists, and 224 William St. New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the (Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.
By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,
By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

TO THE CONSUMER!

"PAVONIA BEER"

MANUFACTURED FROM THE

Best Grade of Imported Malt and Hops.

ENTIRELY FREE FROM THE PUNGENT TASTE OF THE ORDINARY BEERS.

It commends itself to the Consumer as a pure, wholesome and delicate Beer; can be safely used by Invalids.

Specify Export Pavonia Beer, White Label, when ordering.

OTIS S. NEALE,

HOWARD STREET,

BOSTON, MASS.

BACK NUMBERS

OF THE

AMERICAN ANALYST

FOR THREE YEARS,

FOR SALE.

APPLY TO THIS OFFICE.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.		Price including Regular American Price. Analyst.		
American Rural Home.....	\$1 00	\$1 50	Harper's Weekly.....	\$4 00	\$4 00
American Agriculturist.....	1 50	1 60	Harper's Monthly.....	4 00	3 60
Art Amateur.....	3 50	4 00	Household.....	1 10	1 35
Arthur's Home Magazine.....	1 50	2 00	Housekeeper.....	1 00	1 25
Art Interchange.....	3 00	3 25	Ladies' Home Journal, Philadelphia.....	1 00	1 50
Babyhood.....	1 50	1 60	Ledger, N. Y.....	3 00	3 00
Ballou's Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Cassell's Family Magazine.....	1 50	1 75	National Tribune, Washington.....	1 00	1 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Day, Boston.....	3 00	2 50
Christian Union.....	3 00	3 10	Our Little Ones and Nursery.....	1 50	1 75
Cosmopolitan, N. Y.....	2 40	2 50	Outing, N. Y.....	3 00	3 00
Cottage Hearth.....	1 50	1 50	Peck's Sun.....	2 00	2 25
Country Gentleman.....	2 50	2 50	Peterson's Magazine.....	2 00	2 00
Current Literature.....	3 00	3 00	Popular Science Monthly.....	5 00	4 75
Demorest's Magazine.....	2 00	2 10	Puck.....	5 00	4 50
Family Story Paper.....	3 00	3 00	Rural New Yorker.....	2 00	2 30
Farm and Fireside.....	50	1 00	Saturday Night, Philadelphia.....	3 00	3 00
Fireside Companion.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Forum.....	5 00	5 00	Scientific American.....	3 00	3 25
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Scribner's Magazine.....	3 00	3 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Vick's Illustrated Monthly.....	1 25	1 60
Godey's Lady's Book.....	2 00	2 25	Wide Awake.....	2 40	2 60
Golden Days.....	3 00	3 00	Yankee Blade.....	2 00	1 50
Good Housekeeping.....	2 50	3 00	Young Ladies' Journal, English Edition.....	4 00	3 50
Harper's Bazar.....	4 00	4 00	Youth's Companion.....	1 85	2 25
Harper's Young People.....	2 00	2 25			

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM No. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are Picked from the Select Tea Gardens of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 70cts. per lb. Special—We will send by mail a Trial Order of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy. Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a Trial Order to the Old Reliable and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-Carb. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequaled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,
DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.
MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.
STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT, and PARK & TILFORD.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

SEE NEW

CLUB RATES

WITH OTHER

JOURNALS,

ON PAGE 562.

DR. PRICE'S CREAM BAKING POWDER

**MOST PERFECT MADE.
NEW YORK'S GREAT CHEMIST.**

This is to certify that I have analyzed Dr. Price's Cream Baking Powder. I find it composed of pure materials, compounded on correct scientific principles. The ingredients are accurately and scientifically proportioned. Hence, bread or biscuits prepared with it are better suited for digestion.

R. OGDEN DOREMUS, M.D., LL. D.,

Prof. Chemistry and Toxicology in the New York Bellevue
Hospital Medical College. Prof. Chemistry
and Physics in the College of the
City of New York.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,
And strongly endor-
sed by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

See Clubbing Rates of **AMERICAN ANALYST** with other Journals, and study their advantages.

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

"BILLET"

are

Carefully Selected
French Sardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.

GLENN'S SULPHUR SOAP.

Physicians know the great value of the local use of sulphur in the **Treatment of Diseases of the Skin.**

Glenn's Sulphur Soap is the Original and Best combination of its kind, and the one now generally in use. For sale by **All Druggists.**

Beware of Counterfeits.

Wholesale Depot,

C. N. CRITTENTON,
115 FULTON STREET,
NEW YORK.

Samples of above Soaps SENT FREE on application.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 48.

NEW YORK, THURSDAY, NOVEMBER 28, 1889.

WHOLE No. 144

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Adulterations in Europe.....	566
American Homes.....	569
California Industries.—Continued.....	568
Dressed Beef.—No. 1.....	568
Distilling and Distilleries.....	570
Domestic Dietetics.....	569
Editorials.....	565
Alcoholism in Europe; Arctic Refuges; School for Nurses; A Uranium Mine.....	
Frauds on Invalids.....	571
Lost Instincts.....	567
Sorghum Sugar.....	567
Tea Experts.....	570
Use for Old Papers.....	571

ALCOHOLISM IN EUROPE.

Our European brethren have become alarmed at the dangerous increase of alcoholism, and are seeking means to counteract it. They do not, however, seek to check the evil by prohibition, but adopt a more sagacious method that has already commended itself to the majority of thinking persons in this country also. They aim at purifying the liquor rather than preventing its consumption. They advocate government interference to regulate the trade, or the establishment of a State monopoly in the manufacture or sale of drink. A State monopoly has been established in Switzerland, and Bismark has contemplated something of the same sort for Germany. In France and Belgium Government Commissions have considered the question and suggested various remedies. Drunkenness until a few years ago was all but unknown in France. But now drunkenness is there in its worst form. The report of a recent congress held in Paris contains figures which prove that drink is now one of the chief causes of crime and of lunacy. The scourge of phylloxera which has swept

over the country and thinned the vineyards has in some measure caused this. Distillers have gone to other sources than the grape for their alcohol. The great drink of the French peasantry and the working people is eau-de-vie. This used to be distilled from fruit, but is now mainly extracted from vegetables. In 1850 only 70,000 hectolitres of this liquor were distilled from vegetables; in 1881 there were 1,759,448 hectolitres, of which potatoes and beet root supplied the most. The consumption for that year was 1,445,000 hectolitres or 12 litres for every adult man. Since 1881 it has increased at the same ratio. The habitual drinker of this poisonous stuff soon becomes a physical and mental wreck. Fourteen per cent. of the lunatics under treatment in France owe their insanity to alcoholism, and in 1885 it was the cause of 538 accidental deaths and 868 suicides. French statesmen are anxious to do something to check this growing evil, either in the way of purifying the spirituous liquors drunk, or limiting the number of liquor saloons. The statistics of the number of liquor saloons to inhabitants in different European countries are interesting and significant. In England there is a licensed house for every 223 inhabitants, in Austria one to 266 inhabitants, in Denmark one for every 194, in Italy one for every 175, in Holland one for every 149, in France one for every 90 people, and in Belgium one for every 43. The Belgians drink more than any other people in Europe. They consume 70,000,000 litres of liquor every year, which gives 60 litres to every male adult. Paris is pretty well provided with liquor shops, or cafes, having one among every 88 inhabitants. The quantity of liquor consumed per head of the inhabitants, women and children included, is 6 litres in England, 10 in Sweden, 16 in Denmark, 9 litres in Belgium, and 7 in Prussia and France.

ARCTIC REFUGES.

It seems a novel idea to establish depots of sailors' supplies, with detachments of men to take charge of them, along the coasts of remote Arctic seas. But Yankee enterprise is not interrupted by geographical limitations. The dangers encountered by our mariners in those hyperborean regions have called for prudent precautions, calculated in certain unfortunate contingencies to evoke showers of blessings upon the humane forethought that suggested them. We learn that last week the whaling community of New London were notified that an "Arctic House of Refuge" has been recently opened at Point Barrow, Alaska, and is in charge of Capt. G. B. Borden. The building has been heavily stocked with salt, cured, and canned provisions, flour and small goods, and it will accommodate 100 people. Heretofore when a shipwrecked crew were rescued it was the custom to scatter the men among the whole whaling fleet. Hereafter they will go to the house of refuge. It is expected that other houses of the kind will be provided soon at East Cape and Point Hope, the one projected for East Cape to be used by

shipwrecked crews on the Siberian coast. There are many straits and roads on the Siberian coast, and with a chart of the country with them, shipwrecked men could easily make their way to the East Cape house. A relief station at East Cape, it is thought, would help to do away with the illicit trading with Siberian natives, an end that was aimed at also in establishing the Point Barrow station.

SCHOOL FOR NURSES.

A training school for nurses, long in contemplation, is about to be established in this city, under the management of a number of public-spirited ladies. A sufficient fund has been gathered to make a beginning upon an experimental basis, and temporary quarters for the school have been secured at the Nursery and Child's Hospital, on Lexington Avenue. If the results reached are satisfactory, a permanent endowment will be raised, but meanwhile only the income from the fund on hand will be used, so that in case the project should be abandoned the money can be returned to the donors. It is intended that the course of training in the school shall extend over a term of six months, at the end of which time diplomas will be awarded. The course will embrace subjects relating to the proper care of young children, the making and administering of their food, the washing and dressing of the children, and the ventilation of their nurseries. A post-graduate course will be given to enable nurses to learn something of the medical treatment of children in emergencies. The nurses will be required to dress in a prescribed style while in the institution, and will be boarded free and allowed a sufficient salary to defray the expense of their clothing. Only unmarried women between eighteen and twenty-five years will be admitted. Their characters will be closely investigated, so that when they leave the nursery their diplomas will also be certificates of character. Women who pass creditably through the course will, it is expected, be able to command high salaries. The school will be in operation by January 1st.

A URANIUM MINE.

The important announcement is made of the recent discovery in England of a large deposit of uranium. It was just one hundred years ago that, in 1789, the German chemist, Klaproth, succeeded in isolating from a dark-colored mineral known as pitchblende, a yellow oxide, which, after carefully testing, he pronounced to be the oxide of a new metal. To this metallic substance he gave the name of uranium, so calling it after the planet Uranus, then recently discovered by Herschel, and it was at once classed among the rare metals, and still remains so. Its rarity is indicated by its market price, which is about \$12,000 per ton. There are several oxides of this metal, but the best known and most important is the sesquioxide, which

DRYDEN & PALMER,
19 Hudson St., New York.

For use at the Soda Fountain and in all Pharmaceutical preparations requiring chemically pure syrup. Warranted to keep in any climate. Order of Wholesale Druggists, Grocers, Confectioners, or of

forms a number of beautiful yellow salts, largely employed for imparting delicate golden and greenish yellow tints to glass. The protoxide is much used in producing the costly black porcelain. Uranium is also useful in certain photographic processes as a substitute for the chloride of gold; but its rarity and consequent high price have hitherto caused its application to be very limited, although there are uses other than those already named to which it could be put if it were less scarce and less costly. It is found in Cornwall, Saxony and Bohemia, but up to the present time it has only been met with in isolated pockets and patches. The centenary of its discovery by Klaproth has, however, been marked by the finding of a continuous lode in Cornwall, which is believed to be the only lode in the world. This discovery is regarded as unique in the history of the metal, for the lode is what is known as a true fissure vein, and the ore is found to contain an average of 12 per cent. of the pure metal, the assays going up as high as 30 per cent. in some instances. Several tons of the ore have already been raised and sold, fetching high prices. It is anticipated that the present discovery will enable two important applications of the metal to be followed up. The first is a substitute for gold in electroplated ware, inasmuch as with platinum and copper it forms two beautiful alloys, each having the appearance of gold, and the former also resisting the action of acids. The second application is in connection with electric installations, where its usefulness consists in its high electrical resistance.

ADULTERATION IN EUROPE.

SUMMARY OF THE ANTI-ADULTERATION LAWS OF EUROPEAN COUNTRIES.

[Paper presented by Edgar Richards at the annual meeting of the American Public Health Association in Brooklyn, October, 1889.]

During the past year I have had occasion to look up the subject of the laws and regulations now in force in European countries in reference to the sale of unwholesome or falsified foods, and believe that brief resume of certain provisions of such legislation may not be uninteresting to the members of this association. To attempt to summarize what has been done in each country involves more or less of a review of its police administration, which would make this paper too long. Copies of these foreign laws, decrees and regulations, and a list of our State laws on the adulteration of food and drugs, dairy products and butter substitutes, will be found in the reports of the commissioner of internal revenue for 1888 and 1889, to which I would refer those specially interested in this subject. In examining this mass of legislation, I was impressed with the large scope of the powers of the police authorities in continental Europe,

and that there are many of these functions which our States might adopt with profit. For instance, in addition to what we consider the ordinary police duties relating to the enforcement of the laws and regulations respecting public order, the suppression of crime and violence, the supervision of the excise, of public places of amusements, etc., we find the following as being specified as part of the duties of the police administration in matters relating to public health, viz.:

(a) The registering and licensing, after previous examination by a board of experts duly appointed for that purpose, of all physicians, surgeons, accouchers, midwives, orthopedists, dentists, pedicures, trained nurses and veterinarians.

(b) The registering and licensing, after suitable examination, of all pharmacists and of their assistants; also the inspection of all drug stores, and the enforcement of rigid regulations concerning the sale of poisons.

(c) The supervision and inspection of all hospitals, whether public or private, public baths, prisons, schools, slaughter-houses, markets, stores and other public and private establishments, in regard to their sanitary maintenance.

(d) The enforcement of all laws, and the making of needful regulations to carry out their provisions, in regard to public health, especially those concerning epidemic or contagious diseases of men or animals.

(e) The supervision and inspection of all articles which serve as foods, properly speaking, or as beverages, as well as those which are employed in the preparation, production, manufacture, or preservation of such foods, including the places where such articles are sold, stored or manufactured (see the laws on sanitary police, of France, Belgium, most of the cantons of Switzerland, Germany, Italy, etc.).

It is to certain features of the laws and regulations on this last subject that I wish to call your attention. These may conveniently be divided into four heads, viz.: general, special, penal and executive provisions.

GENERAL PROVISIONS.

The word "food" may be said to include all commodities, materials or ingredients, of whatsoever character, intended for human consumption. A food is considered as adulterated or falsified (a) when any substance has been added which does not exist in the normal product, or is only found there in an appreciably lower proportion; (b) when any substance has been subtracted that is normally present in the product, and which is not found in the abnormal product or only in an appreciably lower proportion; (c) when it is an imitation of, or sold under the name of another article; and (d) when any substance has been substituted, wholly or in part, for the article. The selling, offering for sale, or otherwise putting on the market, as well as the use of any food commodity which is unwholesome, altered or decomposed, is prohibited under severe penalties. The selling and offering for sale, for the purpose of slaughtering, of animals infected with contagious and other diseases, as well as the selling and offering for sale of the meat from such diseased animals, is prohibited. Power to regulate the proper inspection before and after slaughtering is left to the competent authorities. The employment of poisonous coloring matters in the manufacture of clothing, wall-papers, toys, eating, drinking and cooking utensils, and other articles of common use as well as their use in wrappers and vessels intended for the packing or the preservation of food, are also prohibited. Every dealer in food commodities must be responsible for the quality of his merchandise, whether of foreign or domestic origin. Every food material must be sold under its true name. Every dealer having an artificial product imitating a natural product in his possession, whether the same is intended for sale or is claimed to be solely for his own use, must announce such fact by conspicuous placards in his shop. All such artificial products must be duly labelled in a conspicuous and legible manner, bearing the name of the merchandise accompanied by the prefix "artificial." The manufacture of, trade in and offering for sale of,

substances intended for the adulteration of articles for food is forbidden or restricted to certain prescribed methods and substances by stringent regulations of the competent authorities. The power to regulate and to supervise the methods and the means for carrying out the provisions of these laws is placed with the competent authorities.

PENAL PROVISIONS.

The penalties prescribed range from a small fine, to imprisonment in the house of correction or the penitentiary, with or without hard labor, for a term of years or for life, depending on the gravity of the offence. In occupations requiring a license from the authorities, said license may be rescinded, and the offender may be deprived of the privilege of carrying on such occupation for a longer or shorter period of time, in the discretion of the court. The repetition of an offence within a year is generally punished by doubling the penalty provided for the first offence. The selling, offering for sale, or otherwise putting on the market, of a product under a name other than that which its nature requires, although the value of the product may be the same, is considered a fraud, and so punished. Such products may be seized, confiscated, and rendered unfit for use, by the competent authorities.

EXECUTIVE PROVISIONS.

The police administrations are charged with the supervision and the execution of these laws, having power to make and enforce the necessary regulations. There is generally a State commission of control, composed of three or more experts, appointed with the necessary police powers, to whom this subject is entrusted. They have under their directions the inspectors, veterinarians and chemists necessary for the proper execution of the laws and regulations. The co-operation of the local police officials, whenever necessary, is obligatory. The commission meet at least twice a year for the transaction of business. They must also make at least two inspections a year of all factories and warehouses for food. The inspection and supervision of all establishments intended for the public preparation, manufacture, or sale of foods must be performed by the inspecting officials employed by the commission. The inspections of these establishments must take place at least twice a year, and without previous notification to the owners. Reports of such inspections are made in writing to the commission. The inspecting officials have the right to enter any establishment within their jurisdiction during the usual business hours or when such places are open to the public, and to take for examination such samples as are necessary. When the examination of samples cannot take place on the spot, but demands a chemical, microscopical or similar examination, two samples must be taken, and placed under seal, by the inspecting official, in the presence of the owners or their representatives, who likewise may affix their own seals thereto. One of these samples is forwarded to the commission with a report, and a request for the proper examination thereof, and the other is retained by the inspecting official. On demand of the owner, another similarly sealed sample may be retained by him. When there is reason to believe that a food is adulterated or unwholesome, the inspecting official may order it detained until a proper examination can be made. If the sample proves, on examination, to be adulterated or unwholesome, the cost of said examination is paid by the offender, but otherwise the State pays the cost of the samples taken and of the examination. All unwholesome foods are to be confiscated and destroyed without compensation to the owner. Private individuals may have samples of food examined by the experts of the commission on complying with prescribed regulations and by paying a moderate charge, or free of charge in many countries.

(To be continued.)

SEWAGE.—The whole of the sewage of Paris will soon be used for the purpose of market gardening.

SORGHUM SUGAR.

GLOOMY PROSPECTS FOR SORGHUM SUGAR IN KANSAS.

According to a writer in the *N. Y. Times*, sorghum sugar was the favorite topic in Western and South-western Kansas last summer. Thousands of acres of cane had been planted in the supposed sorghum-producing belt, five or six sugar mills were being erected in as many towns, and visions of wealth danced before the eyes of farmers who had suffered three successive crop failures. "Sorghum sugar will be our salvation," was the burden of their cry, and it was taken up throughout the State and believed by all interested in Kansas progress. Even the State Board of Agriculture caught the fever, and its reports were calculated to give one the impression that in the near future Kansas would outrank Louisiana or the Sandwich Islands in the production of sugar. To-day the State board is "singing low," the farmers are despondent, the mills are either closing down or going into the hands of receivers, and the word "failure" can be written against the industry which to the enthusiasts promised so much three months ago. Utter disregard of the experience of men who have experimented for years with sorghum in Kansas has characterized the operations of those who have sunk upward of half a million dollars this year in the attempt to secure a profitable output of sugar. They have proceeded with as much confidence as if the problem of converting cane into cash had long since been solved, overlooking the fact that for some time sugar mills have been in operation in Topeka, in Fort Scott and in Conway Springs, and the public has not been favored with statements concerning their success or non-success. If there has been a dividend declared by either of the companies owning these plants no outsider is aware of it. If there have been any profits they have quietly been pocketed. If the mills have ever paid expenses, a remarkable silence as to that important item has been preserved. Last spring several Kansas newspapers took up the question of sugar making, and asked the mill owners for statements of dividends or gross profits. The query was fruitless. The mill men made no public utterances, but at the same time did not try to undeceive those who thought that fortunes were to be made by extracting the sugar from Kansas cane, despite overwhelming evidence showing that the experimental stage in sugar making was not yet over. The farmers of the West and Southwest prepared last spring to increase the acreage of cane, and even those of Eastern and Southeastern Kansas planted larger acreage than formerly. Then a cry went up for more and better sugar mills. The enthusiasts declared that sorghum could not fail to mature in Kansas, that it grew regardless of the weather, and all that was needed was a sufficient number of mills to convert it into sugar. Early in the season the citizens of Attica, deluded by the optimists, bonded themselves in \$75,000 to build and equip a mill. Those of the town of Liberal went into debt a like sum for a like purpose, and those of Meade, Medicine Lodge, Arkalon and Garden City followed suit, the amount of each city's bonds ranging from \$40,000 to \$75,000. The machinery for each will come from Fort Scott, whose foundrymen were not among those who predicted failure, although they knew perfectly well that the experiments at the Fort Scott mill had not been successful. The mills were finished, the cane crops were harvested, and all agricultural Kansas awaited impatiently the result. It has just been announced. Very little of the vast quantity of cane grown reached maturity. It was dwarfed and it lacked the sugar producing qualities. The Liberal mill closed October 15, after having run about 700 tons of cane. The product of sugar did not reach 3,000 pounds and of syrup there were only 6,000 gallons. About 1,700 acres of cane were cultivated by contract, and probably 300 acres more were put in with the expectation that the mill would be able to use it. What is true of the

Liberal Mill is true of those of Arkalon, Meade, Garden City and Medicine Lodge, except that more work was done at Liberal, and its showing is more favorable. A few days ago the Attica Sugar Works went into the hands of a receiver, its liabilities being about \$70,000. Financially, the other mills are but little better off. Each had an acreage of cane planted sufficient to keep it busy during the season, but not enough good cane was raised at all of them to have kept one mill supplied. To increase the misery of the situation, the Topeka Mill, which had contracted for several thousand acres of sorghum, burned a short time ago, and the farmers were left with no means of disposing of their product. Many suits have been begun against the company. Now that disaster has come, the sufferers are extracting what comfort they can from a discussion of the alleged causes. Some declare that late planting is at the bottom of the failure, others that the season was too dry, others that it was too wet. The probabilities are that after the chemists and the State Board of Agriculture submit their reports on the subject, the sugar cranks will accept some one of the many theories put forth and prepare for another season's outlay of time and money. This plan may be followed for several years yet, but eventually all will have to acknowledge that the season in Kansas is too short to make sugar-producing cane in quantities sufficient to build up a great industry. That is the inevitable outcome of the situation.

LOST INSTINCTS.

HAVE THE SENSES OF MAN BEEN BLUNTED BY DEVELOPMENT?

If the doctrine be true that man is really the heir of all the various species and genera of the animal kingdom, it seems a little hard upon us that, even by way of exception, we inherit none of the most marvellous instincts of those species and genera, and have to be content with those greater but purely human faculties by which even the most wonderful of animal instincts have been somehow extinguished. Sir John Lubbock maintains with a good deal of plausibility that there are instincts, and very likely even higher animals, which perceive colors of which we have no glimpse, and hear sounds which to us are inaudible. Yet we never hear of a human retina that includes in its vision those colors depending on vibrations of the ether which are too slow or too rapid for our ordinary eyes, nor of a human ear which is entranced with music that to the great majority of our species is absolutely inaudible. Again, we never hear of a human being who could perform the feat, of which we were told only recently, of a bloodhound. In a dark night it followed up for three miles the trail of a thief with whom the bloodhound could have never been in contact (he had just purloined some rolls of tan from the tanyard in which the dog was chained up), and finally sat down under the tree in which the man had taken refuge. Why, we wonder, are those finer powers for discriminating and following the track of the scent, which so many of the lower animals possess, entirely extinguished in man, if man be the real heir of all the various genera which show powers inferior to his own? We see no trace in animals of that high enjoyment of the finer scents which make the blossoming of the spring flowers so great a delight to human beings, and yet men are entirely destitute of that almost unerring power of tracking the path of an odor, which seems to be one of the principal gifts of many quadrupeds and some birds. It is the same with the power of a dog or cat to find its way back to a home to which it is attached, but from which it has been taken by a route that it cannot possibly follow on its return, even if it had the power of observing that route, which usually it has not. Nothing could be more convenient than such a power to a lost child. But no one ever heard of any child who possessed it. Still more enviable is that instinct possessed

by so many birds of crossing great tracts of land and sea without apparently any landmarks or seamarks to guide them, and of reaching a quarter of the globe which many of them have never visited before, while those who have visited it before have not visited it often enough to learn the way—at least by any rule which, in like circumstances, would be of any use to human intelligence. The migratory birds must certainly be in possession of either senses or instincts entirely beyond the range of human imagination, and yet no one ever heard of the survival of such a sense or instinct in any member of our race. It may be said, indeed, that men have either inherited or reproduced the slave-making instinct of some of the military ants, though that unfortunate and degrading instinct does not appear to have been inherited by any of the higher animals which intervene between the insects and our own race; but this only enhances the irony of our destiny, if we do, indeed, in any sense inherit from these insect aristocracies one of the most disastrous instincts of the audacious but indolent creatures which fight so much better than they work. If we have not inherited the architectual instincts of bees or beavers, nor the spinning instincts of spiders, nor the power of the dog to track out its home, it is a little sad that we should have inherited the one disastrous instinct of the ant by which it makes itself dependent on a more timid and industrious species of its own race, and thereby loses the power to help itself. What is still more curious is that even where human beings have wholly exceptional and unheard-of powers they betray no traces of the exceptional and unheard-of powers of the races whose vital organization we are said to inherit. The occasional appearance of very rare mathematical powers, for instance, so far from being in any sense explicable from below, looks much more like inspiration from above. The calculating boy who could not even give any account of the process whereby he arrived at correct results which the educated mathematician took some time to verify, certainly was not reviving in himself any of the rare powers of the lower tribes of animals. Nor do the prodigies in music who show such marvellous power in infancy, recall to us any instinct of the bird, the only musical creature except ourselves. Still less, of course, does great moral genius, the genius of a Howard or a Clarkson, suggest any reminiscence of what happens in the world of animal life.

THE LADY AND THE FLOUR BARREL.—She objected to the last barrel of flour which the grocer had brought, and after using a few scoops from the top of the barrel, headed it up and told the grocer to take it away—she should use no such flour as that. The next barrel brought was perfectly satisfactory. "Now that is something like flour," she told the family. But when she reached the bottom of the barrel she found her old flour scoop, long missing, which had been headed up in the other end. The grocer had merely brought back the same barrel with the other end uppermost.

A "CHRISTIAN BUDDHA."—This was the title given by the grateful Chinese to the late Rev. J. Crossett, the independent American missionary, who is described in an official communication to the State Department at Washington, in the highest terms, as devoted to doing good to the poor: "He was known by the Chinese as the 'Christain Buddah.' He was attached to no organization of men. He was a missionary, pure and simple, devoted to charity rather than proselytism. He literally took Christ as his exemplar. Innkeepers would take no pay from him, and were ever glad to entertain him. It must be said that his wants were few. He wore the Chinese dress, had no regular meals, drank only water, and lived on fruit, with a little rice or millet. He aimed at translating his ideal, 'Christ into reality.' He found good in all religions. After a long conversation with him one day, I told him he was not a Christain but a Buddhist. He answered that there were many good things in Buddhism. He completely sacrificed himself to the good of the poorest of the poor. He acted out his principles to the end. He was poor, and lived as plainly as the poorest of his patients. On charitable subjects he wrote well. The ideal to him was practical. Let this American be enshrined in the annals of men who loved their fellow men."

DRESSED BEEF.

No. 1.

THE BUSINESS DESCRIBED FROM A CHICAGO STANDPOINT

[We propose in this and the following two papers to present to the readers of the AMERICAN ANALYST a full account from a local standpoint of the Chicago Dressed Beef interest, together with a detailed description of the several firms engaged in it, their business methods and statistics, showing the proportions of the industry. We believe the facts thus presented to be trustworthy, and to embody the most complete summing up of the subject that has ever yet appeared in print. EDS. ANALYST.]

CHICAGO, Nov. 19, 1889.

For some time past there has been a great deal of talk in the newspapers about the "dressed beef combine," as it is called, at Chicago. In fact, the question of furnishing dressed beef from Chicago slaughter-houses, for consumption all over the United States, has risen to the dignity of a national one. A Senatorial investigating committee has been recently traveling over the country looking up the question. If these learned Senators had spent a month or two at the Union Stock Yards in Chicago, we think they would have been convinced that it was over-production and not a "combination" that keeps cattle at the present low prices. As everybody knows, the shipments of cattle are expected to be light during the hot months, yet a glance at the receipts during the heated term shows an enormous influx. For the seven weeks from August 3d to September 21st, inclusive, the receipts of beef cattle aggregated 459,160 head, an average of 65,600 for every week, and this during the hottest weather of the year. During the week ending September 21st, 50,000 more animals were received than during the corresponding week of the preceding year, while the shipments out showed but very little increase over last year, the total shipments for the week being 82,616, leaving 138,300 head for slaughter at this point. To still further show the immense number of animals on the market, let us take one day's offerings at five different points. On September 23 the following number of cattle were for sale: at Chicago, 15,500; Kansas City, 11,003; East Liberty, Iowa, 3,720; St. Louis, 3,300; Omaha, 3,000; Sioux City, 589. Just think of it! Over 37,000 head of beef cattle on sale the same day within a radius of 500 miles! Can farmers expect the prices of five or six years ago with such a showing? With the foregoing facts and figures before us, there is but one conclusion to be arrived at, viz.: Without the large slaughter-houses at the Chicago Union Stock Yards, these yards would be filled to overflowing and farmers could scarcely give away their surplus cattle, sheep and hogs, let alone selling them at any price. Swift & Co., Armour & Co., Nelson Morris & Co., and Geo. H. Hammond & Co. have facilities for slaughtering over 10,000 head of cattle per day, and this alone prevents a glut in the market. Ignorant and uninformed people believe that the profits on every steer killed are very large; that there are millions in the business; but a comparison of the prices in the Chicago market for live cattle with the prices at which beef is sold at wholesale by the dressed beef shippers in New York, Philadelphia and other eastern markets, which sales are published each week in the principal papers of the various cities, will show that the profit, if any, must be small, and profit at all is only possible by a complete and thorough utilization of all the offal, which local butchers largely waste. Where large capital is invested, the workings of a slaughter-house are more perfect, and nothing is wasted. It is the savings in this respect alone that give the large firms a profit. Let a country butcher take off a hide and every nine in ten will have holes cut in them, greatly lessening their value. The French used to take off hides by blowing up the animal with a pair of bellows, but our American method beats that, and trained butchers take off the hide without a blemish, increasing their value over country or foreign hides, and giving American leather the front rank in regard to quality.

The hoofs go into the glue pot; the entrails are made into casings; the bones are ground up into bone meal; the contents of the paunch and entrails, and the blood, are made into fertilizers, while the horns furnish us with combs; the leaf tallow is made into oleomargarine, and not one particle of an animal but is used for some purpose. This is the reason that there is profit, though very small.

With the introduction of dressed beef in various cities and towns throughout the United States, a wall has gone up from the local butchers against its use. They declare that it is not good meat, and that people should patronize the home butchers. But the local butchers say nothing of the enormous profits they have been making for years, and when the people inquire into the matter, there will be but one result. They will take the Chicago dressed beef every time, for it is not only better, but much cheaper. The dressed beef industry benefits both the producer and the consumer of beef, and bears hard only on the monopoly of local butchers. In days gone by the housewife, on getting a steak from the local butcher, proceeded to wash it, for it was always dirty; then she would nearly exhaust herself in pounding it to try and make it tender, but usually failing to render it fit for the human stomach. The reason for its being so unpalatable was, the animals were driven overland or sent in by rail, were given no water, became overheated, and in that condition were killed, and even before the animal heat or life heat was out of the carcass, it was cut up and sold. As a consequence, it was tough, indigestible, and unfit for use. Now, cattle shipped in, are taken from the cars *en route*, watered and fed, and arrive in good condition. They are not slaughtered until thoroughly cool, and the slaughter houses are models of cleanliness. No decaying garbage or offal surrounds the Chicago slaughter houses. After the animal is killed, skinned and the entrails removed, it is hung up in a refrigerator house, where it is kept until all the animal heat has left it, and the result is, we get choice, juicy meats, nourishing to the human family. It is not the people of Chicago alone who are benefitted by this change from the old way of treating meats. By means of refrigerator cars, meats are transported all over the United States and placed on sale, at less price, by from 25 to 50 per cent. than are asked by local butchers for meat killed and treated by them in the old way. People in the Southern States never knew what it was to have a good, choice roast of meat until the present system of refrigerator cars enabled them to buy Chicago dressed beef, but now they get as good as there is in the land delivered at their homes. Some people think Southerners owe their lack of energy to their Southern climate, but beyond a doubt much of it was due to a former want of good, wholesome beef. We may look to see a marked change in the next generation amongst those people, now that they can eat the same quality of beef as their Chicago brethren. Not only do the Chicago slaughter-houses materially benefit the raiser and consumer of beef, pork and mutton, but they furnish employment to at least 25,000 employees at good wages. The slaughter and packing houses are veritable "hives of industry." These people are not employed in the winter only, but summer as well, for the work goes on unceasingly without regard to the seasons, though more men are employed in the winter than in the summer, because more animals are marketed.

Some of the State Legislatures, notably Colorado, Indiana and Minnesota, have passed laws aimed at the dressed beef industry. But attempts to enforce the laws in the States mentioned have resulted in their being declared unconstitutional by United States Circuit Court judges, so an appeal to the United States Supreme Court has not yet been found necessary. The constitution declares in plain language that "the rights of the citizen of one State shall not be abridged by those of another State." The attempt of the Minnesota Legislature, in passing a law requiring inspection on the hoof of animals killed, was so clearly an attempt to keep Chicago

dressed beef out of the Minnesota markets, that the judges the United States Circuit Court in session there at once declared the statute unconstitutional. The cattle in this country are healthy and the inspection at the Union Stock yards in Chicago is perfect. Every animal is subject to a rigid system of inspection, superior to any in this country, before it goes to the slaughter-house, while at each slaughter-house are stationed from three to five uniformed city inspectors, who inspect each animal during the process of slaughter, the slightest blemish on which subjects it to condemnation. There is one thing local butchers can make up their minds to: the dressed beef industry has come to stay, as it is of general good to the masses and an especial boon to the poor man.

After a careful study of the question from all sides, we are led to the following conclusions:

FIRST.—That the dressed beef industry creates a market for cattle raisers which they cannot do without, and that with the vast *over-production* of cattle any unfriendly legislation directed against that industry would react very injuriously on the cattle-raising interest.

SECOND.—That the Chicago dressed beef men have made it possible for the people of the United States to buy better beef at a lower rate than that charged by local butchers, thereby enabling the poor of our cities and towns to provide their children with the best meat, where heretofore they were only able to buy the poorest and cheapest cuts.

THIRD.—That they give employment to thousands of persons, at good wages, who but for these industries would be compelled to seek some other means of livelihood, which, in many instances, would be difficult, if not impossible, to obtain.

CALIFORNIA INDUSTRIES.

THE REMARKABLE PRODUCING CAPACITIES OF THE GOLDEN STATE.

(Continued.)

Placer County is one of the counties bordering on the State of Nevada, and having that beautiful sheet of water, Lake Tahoe, on its eastern edge. It is about 165 miles north-east of San Francisco, and is traversed its entire length by the Central Pacific Railroad. It has unequalled advantages of situation and general picturesque-ness of scenery. In length about one hundred miles, and in width from ten to thirty miles, it contains about 900,000 acres, half of which is good fruit land. Some of its scenery, especially towards the summit of the Sierras, reminds one of far-famed Switzerland. Trout fishing, deer, smaller game, including quail and duck shooting, are the attractions for sportsmen. The soil in the valleys is alluvial, in the lower foot hills of a granite formation until the altitudes are reached, when it changes into a red slate which continues nearly to the summit. Being very rich in iron and potash, it is especially adapted to the growth of fruits. The mountainous section is covered with snow during the winter, but in the foot-hill region, where the altitude varies from 200 to 2,000 feet, there is an almost winterless climate. The temperature seldom falls below the freezing point. The rainy season begins with slight showers in October, but the greater part of the rainfall occurs during December, January and February, gradually lessening until they discontinue in the latter part of April. Being above the fogs and out of reach of the cold sea air, the winters are most charming. Flowers bloom continuously during the year, and in summer when the rains have ceased the blue sky rivals in beauty that of Italy. Owing to the dryness of the atmosphere, the heat is never oppressive. As has been already said, this is the great fruit-growing county of the State. Strawberries, blackberries, raspberries, cherries and currants, and all the deciduous and citrous fruits, ripen here earlier than in any part of the State. There are three sources of water supply, the Yuba,

Bear and American rivers. Oranges and peaches are grown here in perfection without irrigation. Above the orange and peach belt, at altitudes of 1,500 feet or more, apples, pears and table grapes are plentifully raised. Olive culture is another industry which thrives here. Pears, plums, prunes, apples, apricots, cherries, persimmons, pomegranates, quinces and figs grow equally well as peaches. The first cherries sent from California to the East every season are always from Placer County. Orange trees here begin to bear profitably at the early age of three years. The land lying west of the American river from Auburn to the Bear river, is in the thermal belt of the Sierra foot-hills and is very favorable for the successful growing of oranges and other citrus fruits. The two great fruit shipping points of the county are Newcastle and Penryn. The former shipped 19 carloads of fresh fruits and 33 carloads of green deciduous fruits last season; Penryn, 7 carloads of green deciduous fruits. Fruit is, of course, the leading product, but Placer County has also other profitable industries. At Lincoln is the largest pottery in California, where all kinds of sewer pipe, tiling, and ornamental building material are manufactured. Forests of pine, spruce, fir, cedar, etc., in the mountainous region supply lumber to innumerable mills. Lath and blind factories and a large paper pulp mill are operated near Alta. The California Iron Company has an extensive iron mine at Hotaling. Coal is abundant near Lincoln. Several large granite quarries are in full operation at Penryn, Rocklin, Loomis and Lincoln. Mining is still prosecuted in many places, but the California law against placer mining to prevent the formation of sand bars has somewhat checked it. The southwestern part of the county is one vast grain field, where immense quantities of wheat, barley, oats, etc., are raised. A few large sheep and cattle ranches still exist, but are rapidly making way for orchards. Quite extensive vineyards are growing at Lauder, New England Mills and Colfax. It will thus be seen that as we have truly said, Placer County is one of the richest and most favored counties of California.

(To be continued.)

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

November.

MEAT.—Beef, mutton, pork, venison.

POULTRY AND GAME.—Chicken, duck, geese, grouse, hare, partridge, pheasant, pigeons, rabbits, turkeys, widgeon, wild ducks, woodcock.

FISH.—Brill, carp, cod, whiting, salmon, trout, perch, smelts, oysters.

VEGETABLES.—Artichokes, broccoli, celery, potatoes, turnips, cauliflower, cabbage, carrots.

FRUIT.—Apples, pears, quinces, grapes, nuts.

PRACTICAL RECIPES.

VEGETABLE SOUP.—Put a good-sized soup bone, which has been crushed, into the soup pot with a gallon of cold water, and cook for two hours. While it is cooking peel, slice and stew until smooth, a quart of tomatoes; add to them a pint of scraped or grated corn, stew up and remove from the fire. When the meat has cooked two hours add to it a few small potatoes, peeled and cut up, let it cook until they are quite soft, then take out the soup-bone, skim all grease from the liquor and add the corn and tomatoes, and half an onion for flavoring, cook gently for half an hour, season, strain and serve.

BROILED POTATOES.—Slice cold boiled potatoes and dip them lightly into the white of an egg, broil on a

gridiron and when brown pour over them a little melted butter seasoned with pepper, salt and chopped parsley. Serve at once.

SAUSAGE ROLLS.—Take one pound of sausage-meat and divide it into twenty-four pieces, flour your board, and roll each piece out to about the thickness of your little finger, and have them all of equal length; flatten out with the palm of your hand, and set aside; then roll down a sheet of puff paste one-fourth inch thick, and cut out in squares. Flatten them out with the rolling-pin, keeping them as square as possible; lay in a sausage, and fold over turnover fashion; flatten out a little with the rolling-pin, and trim off square with a sharp knife. Cut three or four slashes in the top with the point of the knife; wash over with egg; lay on clean tins, bake in a hot oven.

FINGERS.—Sift together one quart of flour, a teaspoonful of salt, three teaspoonfuls of Horsford's baking powder. To a scant pint of milk (scalded and cold) add an ounce and a half of melted butter and a tablespoonful of sugar; whisk it, and add it to the flour; mix quickly. Turn it out on a floured board; roll quite thin and brush lightly over it a little melted butter; fold and roll again; lift the dough from the board a moment to allow it to shrink. Now divide the dough into balls, and with floured or buttered hands roll them into fingers; brush a trifle of butter over them; arrange them quite closely together on the buttered pan, and bake in a hot oven fifteen minutes.

MINCE MEAT.—Peel and core $2\frac{1}{2}$ pounds of apples; they must weigh full weight when done. Pick $1\frac{3}{4}$ pounds of suet free from skin, and chop it up very fine without caking it together, but do not use any flour with it or it will be spoiled. Chop up $1\frac{3}{4}$ pounds of mixed orange, lemon and citron peel very small, and mix with the suet. See that $2\frac{1}{2}$ pounds of currants are thoroughly washed and picked free from all stalks and stones; when dry, mix with suet and peel. Now chop up two pounds of raisins; add to the other ingredients. Now add $2\frac{1}{2}$ pounds of sugar and one-half ounce of ground mixed spice, and then chop up with the apples as fine as you can, and mix in together with one-quarter of a bottle of whiskey and one-quarter of a bottle of Jamaica rum, and put it away in a crock covered up with several thicknesses of brown paper, and stand it aside till required for use.

CHICKEN OR TURKEY FRIED IN BATTER.—Make a frying batter, using an egg to a pint of milk; cut the meat from a cold fowl in good-sized pieces; dip them in the batter, and fry to a good brown, seasoning with pepper and salt while in the pan.

MAPLE CREAM WALNUTS.—Take one cupful of water and two cupfuls of maple sugar; cook without stirring, and when nearly done put in a small piece of butter; try in water, and when it begins to harden take off and stir rapidly until it becomes a waxen substance; then make in balls and put halves of English walnuts on either side, putting on a greased plate to cool.

AMERICAN HOMES.

HOW WE SURROUND OURSELVES WITH THE COMFORTS OF LIVING.

Nothing strikes an observing American upon his first visit to Europe with greater force than the lack of those comforts and conveniences in the dwellings of even the wealthiest classes, which in his own country are considered indispensable necessities. We are quick to seize upon the latest discoveries in science and the arts, which can in any way render our homes more attractive, or the cares of housekeeping less burdensome, while the more conservative Europeans are content to live as their fathers did before them, and would consider it a sacrilegious extravagance, to tear up the floors or walls of their dwellings for the purpose of introducing steam or water pipes. * The climate of England is

damp and cold, but the almost universal way of warming is by open fire-places of soft coal, which usually develop much more smoke than heat. Hot air or steam furnaces are practically unknown, and the only means of heating railway carriages is by cans of hot water placed upon the floor. Under favorable circumstances, these will sometimes prevent the soles of one's feet from freezing, but their influence rarely extends any further. Only the very wealthiest persons abroad allow themselves the luxury of a private bath-room, and the idea of a set bowl with hot and cold water faucets in a sleeping-chamber is a refinement of effeminacy and extravagance at which even a monarch would hesitate. The houses of London are provided with a tank, into which the water is allowed to flow for a certain length of time every day, after which it is turned off, and there is no more to be had until the visit of the water company's official the next day. The "bed-room candle," to which such constant allusion is made in foreign novels, is no figure of speech, but a very disagreeable reality, for gas is rarely or never introduced into sleeping-rooms. In a somewhat extended journey through Europe, we cannot recall half a dozen instances where any other means of illumination was supplied than a wretched candle, which sometimes gave light enough to enable one to see how dark it really was. What would be thought of a first-class American hotel which advertised as a special attraction to travelers the existence of a bath-room inside its walls? and yet this is a common practice with European hotels to this day. A modern American house, with all the recent improvements, is a most wonderful affair, and an inspection while being constructed gives one a good idea of the extent to which the arts and sciences are applied to minister to our comfort. The space between the wall is crowded with tubes and pipes of every description. Steam, gas, hot and cold water are carried to all parts of the building, speaking tubes and ventilating shafts are connected with every room, while great cables of insulated wire as large as a ship's hawser, illustrate the manifold uses to which electricity may be put. Call bells, automatic gas-lighting and incandescent lamps, are only a few of these applications, and the day is not far distant when some simple form of electric motor, to run the sewing machine and furnish a supply of power for many other purposes, will be found in every first-class dwelling. As regards sanitary and drainage arrangements, their construction has become a science in itself. Take it altogether, the American householder has no cause to regret his lot. A recent writer has said that in some things we are measurably behind the Europeans, but in many things we are immeasurably ahead of them, and in no respect is this more true than in our domestic arrangements. It may be safely said that there is not a royal palace in all Great Britain or Europe, which is as luxurious, or even comfortable, as the house of the average American of moderate means, and in no country in the world is the greatest blessing, of life—a happy and comfortable home—so readily within the reach of all as in our own land.—Pop. Science News.

NINE TO STAY.—There is not a man, woman or child living who will ever date a letter or document without using the figure 9, if the document is made complete. Why not? See. The 9 has come to stay many years. It is now on the right, 1889. Next year it will take a step to the left, 1890; stay there ten years, and then take another step to the left, 1900, and there it will remain until you are done dating letters.

PURE GELATINE.—The purity of gelatine may be easily tested thus: Pour upon dry gelatine a quantity of boiling water; if pure it will form a thick, gluey, colorless solution, free from smell; but if made of impure materials it will be of a very offensive odor and have a yellow, gluey consistence. No article manufactured requires such careful selection of material and such nice and cleanly manipulation to insure a good marketable character; and those anxious for purity should avoid all artificially-colored varieties, however temptingly got up, unless they are required for merely decorative purposes and not for food.

TEA EXPERTS.

HOW THE SPECIAL VARIETIES ARE DISTINGUISHED AND SELECTED.

There are various kinds of tea which have certain characteristics, and it does not require much training to distinguish between them, as the difference is so clearly marked. There can be no mistake in detecting a Kintuck or Ningchow Moning from a Chingwo, Kaiso, or a Souchong, and when to these are added the numerous distinctive flavors of scented Foochow and Canton teas, to say nothing of several kinds of green tea, it seems more reasonable to account for the sixty cups—as stated by one of our correspondents—being correctly placed. If the statement of the difference in the value being only one penny had been omitted, the difficulty of distinguishing the cups would not have been so hard of comprehension. In mentioning these kinds of tea our readers will no doubt notice the apparent omission of the numerous teas of decidedly different character imported from India, Ceylon and Java, and these form a host in themselves; but as our correspondent writes of a gentleman who performed the wonderful feat of pairing sixty teas more than fourteen years ago, when Ceylon tea was nearly unknown, and Indians were comparatively small, we have thought it desirable to leave them out altogether. In consequence of the letters in the *Grocer*, the more important subject (to the public) of blending and brewing tea has been brought into prominence by leading articles and letters in the *Times*, *Daily Telegraph*, and other papers. While a vast amount of nonsense has been written, still attention has been drawn to an important matter which it will be in the interest of all true lovers of the refreshing and cheering beverage to ventilate, with the view of bringing about some valuable practical results. First, with regard to blending, there can be no doubt that a knowledge of the characteristics of different teas is essential to ascertain which of them, when properly mixed, and not merely thrown together, will produce the most agreeable flavor to the palate. This knowledge can only be acquired by careful training; and, further, it is necessary to be conversant with the particular character of the water in which the tea will be ultimately made. For instance, in one part of England the water contains more lime than in another, and the variation in the hardness or softness, as the case may be, will materially affect the result of a blend. This and other considerations must be taken into account when mixing the several kinds of tea, and requires considerable experience and judgment to insure success. Some writers prefer an unmixed tea delivered in the original package, and what they lose in flavor they believe the gain in getting an overweight in the tea, and security against foreign matter being mixed with it; but in our opinion, having regard to the present low price of the article, there is little fear of anything else being substituted, and by blending there is a better chance of the quality of the tea being more evenly sustained. This is of no small importance to retail grocers having the sensitive taste of the public to consider, who look with suspicion and dislike on any variation in the flavor; in fact, if a grocer is unable, from any unavoidable cause, to make up the same blend as he usually sells, and has to put in one or two qualities of tea at even a higher cost to himself, he will not be long in hearing of complaints, and perhaps have to suffer loss of trade. It is, therefore, most desirable that the blending system should be encouraged in order to maintain an evenness in quality which could not so easily be obtained in tea as imported. With reference to the subject of brewing tea, most experts agree in the opinion that the water should only just boil—in fact, all the tasting of tea in merchants' offices is done on this principle; and, notwithstanding the experience of a doctor who has written in favor of water being boiled for many hours, there can be no doubt that the general practice adopted for so many years is the best. Thus, when the boiling water is poured on the tea, the infusion should take place for

five or six minutes, as after that time a portion of tannin is extracted, which spoils the fine flavor of the tea, besides being injurious to the system. Thus the pernicious plan too often adopted at railway stations and restaurants of allowing the tea to stew cannot be too highly deprecated. There is no doubt that the wretched flavor of this so-called tea prevents the more general consumption of it by travelers, and tends to cause an unreasonably high price to be charged, which in itself is prohibitive to the poorer classes. One large firm of tea dealers writes that one pound of tea will, when infused, make 128 cups, and at two shillings per pound, brings the cost considerably under 1 farthing per cup; and if to this is added the milk and sugar and cost of firing and utensils, there would be a fair margin of profit if it were sold at one penny per cup—a price few would object to pay and many would be glad to give, and the increased consumption would doubtless make it worth the while of purveyors to pay more attention to the sale of tea. Of course the time absorbed in drinking a cup of tea is a consideration when only a minute or two is allowed at a station, and the profit on beer and alcoholic liquors is so large that there is little desire to encourage the sale of tea. The tea at railway stations should be made as we have already indicated, and when properly infused the liquor should be put in another vessel, either glass or earthenware, kept hot. It would thus be ready for travelers immediately on their arrival. The addition of milk would reduce its heat, so that it would be drinkable at once; the avoidance of the stewing process would remove one of the present great drawbacks to the quality of the railway tea; and while not, of course, being equal to the fragrance and flavor of a fresh brew, it would still have an attractive taste, instead of the repellent character of the decoction generally sold. Although the correspondence on this subject has been of an interesting and instructive character, if an increased consumption of an improved cup of tea be the result of the publicity given to the matter, our readers will have reason to congratulate themselves, and the time of the writers will have been profitably employed.—*London Grocer*.

DISTILLING AND DISTILLERIES.

MEANING OF THE PROCESS AND HOW IT IS APPLIED.

If we boil water and allow the steam to strike against some cold body, or pass through a pipe surrounded by cold water, the steam is condensed back again into water, and all the solid impurities are left behind. Distilled water, as this product is called, is largely used in chemical laboratories, and is one of the purest forms of water known, being absolutely free from solid impurities, although still containing traces of any volatile substances that may have been present in the original water. Every shower of rain is but a repetition of this process of distillation in nature's laboratory. The heat of the sun causes the water from the land and ocean to rise as aqueous vapor into the higher and colder regions of the air, where the vapor is once more condensed into water, and falls again to the surface of the earth, separated from its impurities. It is on account of its great purity that this naturally distilled water is so wholesome to use, when stored in clean cisterns and reservoirs. Not only water, but any volatile substance can be distilled if heated to the temperature of vaporization, and the process of distillation thus becomes a most important one, both in practical and technical chemistry. Sulphur, mercury and zinc are readily purified by distillation, and it is only the excessively high boiling-point of many other metals which prevents the application of the same process to them. Iron, for instance, can only be volatilized in small quantities by the heat of the electric arc, but in the atmosphere of the sun the vapor of iron is certainly present in immense quantities, and is probably being continually condensed and re-volatilized, like the aqueous vapor in the atmosphere of the earth. If there are any inhabitants on the sun, they

must be so constituted as to be proof against constant showers of molten iron. When two liquids of different boiling-points, such as water and alcohol, are mixed together, their separation by distillation is by no means as simple a matter as at first appears. Water boils at 212 deg. and alcohol at 141 deg., but if a mixture of alcohol and water is heated, say to 145 deg., the vapors formed do not consist entirely of alcohol, but of a mixture of alcohol and water, the proportions depending upon the proportions in the original liquid. It is evident, however, that at the beginning of the distillation the vapor that passes over will contain a greater proportion of alcohol, while towards the last the alcohol will nearly all be vaporized, and only vapor of water will be formed. Therefore, the first portions that are distilled over are saved and re-distilled, until finally we can obtain a liquid containing about 95 per cent. of pure alcohol. If we desire a perfectly pure—or absolute alcohol, as it is called—we must use chemical reagents having a strong affinity for water, such as caustic lime, or chloride of calcium. Absolute alcohol is but very little used, principally in chemical laboratories, and the ordinary alcohol of the arts always consists of the weaker liquid. This process of separating two or more liquids of different boiling points is called fractional distillation. One of its most important practical uses is in the preparation of alcohol from fermented liquors, known as rectification, and many very ingenious stills have been devised which automatically separate the stronger from the weaker mixtures, and give as the product of the final condensation, commercial alcohol. They all depend upon the varying boiling-point of the different mixtures, which is lower in proportion to the percentage of pure alcohol present. Fractional distillation is often carried on in the laboratory, especially in connection with the study of organic chemistry. It is often the only available means of separating two or more liquids of different boiling points, and, if properly conducted, the mixture can be divided into different liquids, or fractions, the boiling-point of which will only vary within a part of a degree from the beginning to the end of their final distillation. It is, however, a most tedious operation, as every student of chemistry knows, and calls for the exercise of considerable patience. The manufacture of kerosene from crude petroleum is, in part, a process of fractional distillation. Kerosene oil is not a simple body, but a mixture of various hydrocarbons, and the quality and safety is indicated to a very great degree by its boiling-point and the temperature at which it gives off inflammable vapors. Destructive distillation is that where the original substance is decomposed in the process and broken up into other forms. The most common example is found in the manufacture of illuminating gas, where coal, upon the application of heat, is changed into nearly one hundred different volatile substances, while a large proportion of the carbon remains behind as the inorganic, non-volatile coke. Distillation was one of the favorite processes of the alchemists, and in their day the retort, the still and the condenser held a much more important place in the laboratory than they do at present. The volatility of mercury was discovered at an early date, and many were the experiments tried by the early investigators to transform the peculiar liquid metal into true silver or gold. One alchemist is said to have distilled the same quantity of mercury several hundred times, and it is a pity that such perseverance should have brought forth nothing but a few pounds of very pure mercury; but often there was a minute quantity of silver or even gold present as an impurity, and it is probable that they sometimes succeeded in separating it, and were thus encouraged to continue their researches. But even at the present time we do not know enough about the true nature of the elements to say just why mercury differs from silver. We can only say that so far we have no knowledge which would lead us to believe that one form of matter can ever be transformed into the other. More than this we must wait for future investigators to determine.—*Pop. Science News*.

FRAUDS ON INVALIDS.

EUROPEAN EXTRACT OF MEAT.

The following paragraphs relating to the material from which European extract of meat is made, appear in the English papers. Let us stand by our American manufactures. We know by whom they are made, and we are certain that they are clean extracts of American beef:

The Hamburg Article.

Some light has been thrown upon the extract of meat trade by a seizure which has just been made in Northumberland. Two horses in the last stages of senility and decay were seized as they were being shipped for Hamburg. The man in charge stated that they cost 15 shillings each, and were intended for conversion into extract of meat. He was paid two shillings per stone on condition that the horses reached Germany alive. Both animals were destroyed.

How Antwerp Beef Extract is Made.

A man at Colchester this week has been fined forty shillings for driving a dying horse with cruelty. He was taken into port for trans-shipment to Antwerp, where it seems they boil down old screws and send the results back to English invalids for beef tea. The newspapers have fully explained the process, and now compressed beef, extract of beef, and beef tea with an Antwerp brand are a drug in the market.

USE FOR OLD PAPERS.

NEWSPAPERS AS PRESERVATIVES AGAINST MOTHS.

Newspapers are invaluable for packing away the winter clothing, the printing-ink acting as a defiance to the stoutest moth as successfully as camphor or tar-paper. For this reason newspapers are useful under the carpet, laid over the regular carpet-paper. The most valuable quality of newspapers in the kitchen, however, is their ability to keep out the air. It is said that ice completely enveloped in newspapers, so that all

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME
OF

ON LABEL,
AND GET
THE GENUINE

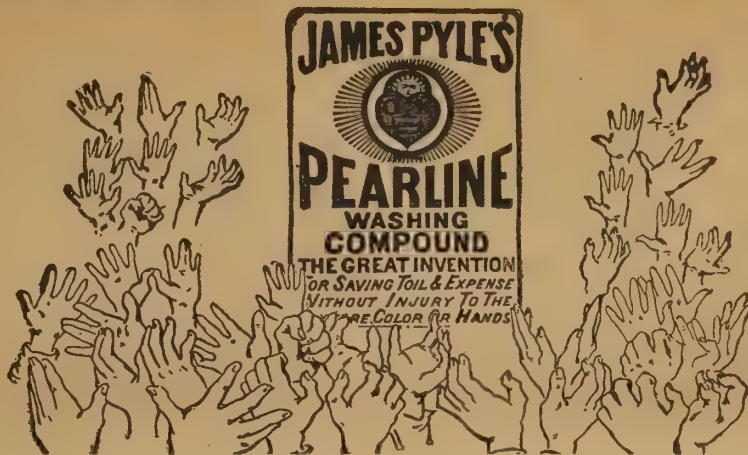
HARTSHORN'S

Fine Table Wines

From our Celebrated Orleans Vineyard.

Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:
NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.



All hands want Pearline—it's handy. Enables one pair of hands to do the work of several; millions of hands use it; millions more will when they learn its value.

You can read, write, sew, wash dishes, prepare the meals, care for the baby—with your two hands, while Pearline is washing the clothes for you almost without the aid of hands. It's harmless; cannot hurt most delicate of hands or fabrics; most delightful for washing the hands. It saves your hands one-half the work in house-cleaning—in fact, when your hands have anything to wash or clean, do it with Pearline.

Beware of imitations and peddlers.

153

JAMES PYLE, New York.

air is shut out, will keep a longer time than under other conditions, and that a pitcher of ice-water laid in a newspaper with the ends of the paper twisted together to exclude the air, will remain all night in any summer room with scarcely any perceptible melting of the ice. These facts if such, should be utilized oftener than they are in the care of the sick at night. In freezing ice-cream, when the ice is scarce, pack the freezer only three-quarters full of ice and salt, and finish with newspapers, and the difference in the time of freezing and quality of the cream is not perceptible from the result when the freezer is packed full of ice. After removing the dasher it is better to cork up the cream and cover it tightly with a packing of newspapers than to use more ice. The newspaper retains the cold already in the ice better than a packing of cracked ice and salt, which must have crevices to admit the air.

BUSINESS NOTES.

CELERINA.

G. W. Watts, M. D., Auxvasse, Mo., says: I find Celerina very useful in cases of old persons, whose digestive powers are failing, and in the convalescing period of those old persons from acute diseases, such as pneumonia, bronchitis, gastro-enteric troubles, etc. In two cases recently treated of this kind Celerina seemed to restore both the nervous and digestive system. Both of these cases were very old persons; they are now apparently well.

A SURE CURE.

An editorial in the *Wayne Co. Courier*, published at Detroit, Mich., September 16, 1889, states as follows: "There is probably no disease to which mankind is heir which has brought out so many shams and frauds as catarrh has. Of all human ills this one seems to have been ordained specially to exercise the ingenuity of quacks in the production of nostrums as manifold as they are worthless. It is therefore actually refreshing to come across a remedy for this disease which affords positive assurance of relief if not actual cure to the sufferer. We refer to the treatment of A. H. Dixon & Son, Toronto, Canada. We have the name of a gentleman in our possession, which will be given to enquirers who has been a sufferer from catarrh for the past

twenty years. He tried many doctors and innumerable so-called safe-cures, but all left him in a worse plight than before, one treatment of A. H. Dixon & Son's remedy made a new man of him and effected, he believes, a perfect cure. The Messrs. Dixon have a theory of their own about catarrh, different from all others and upon this they work to eliminate the cause of the disease, with almost certain success. It is seldom that we are able to give so full and free an endorsement to anything as we are able to accord to this really wonderful remedy."

HE KNEW.—Mrs. Swiggles (at the opera) "Oh, isn't that a lovely viola?"

Swiggles (also at the opera), "Yes, that's a Strabismus."

MISFIT LANGUAGE.—Why do we always talk of putting on a coat and vest? Who puts on a coat before a vest? We also say putting on shoes and stockings. Who puts on the shoes before the stockings? We also put up signs telling people to wipe their feet, when we mean their boots or shoes. And a father tells a boy he will warm his jacket when he means to warm his pantaloons. We are a little eccentric in our phrases, ain't we, at times?—*Boston Courier*.

HOSPITAL REMEDIES

THE Favorite Prescriptions of the Brightest Medical Minds in the world, as used by them in the Hospitals of London, Paris, Berlin and Vienna.

ONE MEDICINE FOR ONE DISEASE.

No. 1—Cures Catarrh, Hay Fever, Rose Cold, Catarrhal Deafness.
No. 2—Coughs, Colds, Bronchitis, Asthma, Consumption. A Peerless Remedy.
No. 3—Rheumatism, Gout.
No. 4—Liver & Kidneys, Dyspepsia, Indigestion, Constipation, Brights Disease.
No. 5—Fever and Ague, Dumb Ague, Malaria, Neuralgia.
No. 6—Female Weakness, Irregularities, Whites. A Golden Remedy.
No. 7—A Perfect Tonic, which gives Health, Form and Fulness, Clear Complexion, Good Blood and lots of it.
No. 8—Nervous Debility, Loss of Power, Impotence, an incomparable remedy.

RELIABLE AGENTS WANTED. Every bottle guaranteed to cure its special disease IF CURABLE and to give permanent relief ALWAYS. Descriptive Circulars sent free on application. **HOSPITAL REMEDY COMPANY, Toronto, Canada.**

GAS POWER.—Recent foreign experiments at Witkowitz, Austria, show that a furnace run with water gas requires only 58 per cent. of the heat which is needed for a furnace fired in the usual way.

REMARKABLE PROJECTILES.—At the Paris Exhibition the firm of Holtzer show a shell which pierced a steel plate ten inches thick and landed entire without a flaw 300 yards, or nearly half a mile, distant from the target. Only the point of the shell was slightly distorted.

VARNISH LEATHER GOODS.—Four ounces of shellac, half an ounce of camphor, and one ounce of resin are dissolved in one pint of methylated spirit and shaken at intervals for 48 hours. The mixture is then colored according to the kind of leather with which it is to be used. Other resins, solvents, and proportions may be adopted.

ORNAMENTAL BRICK.—A new hydraulic brick is now manufactured in eight different shades of red and brown which, on cheap houses, is designed to supply the place of brownstone or sandstone for trimmings. The shades of color run from a rather dark brown to a reddish hue, and at a superficial glance might well be taken for the stones the places of which they supply.

SMOKE SANITATION.—The belief that smoke from soft coal may have beneficial sanitary effects is gaining ground. It is claimed that the sulphur in the coal when burned becomes sulphurous acid gas, a well-known disinfectant. Further, that creosote and its allied products are thrown off with the fumes of bituminous coal, and that an atmosphere charged with carboic acid must be freer from germs of the disease than an apparently purer air.

BELIEVES IN PRINTER'S INK.—Professor Dickman, of the Edge Hill vineyard is a strong advocate of the use of "printer's ink," and says it is the only true road to success in any business in this enlightened age. He says that after our wine reaches New York it should be advertised on a large scale. "The American people," says he, "are willing to pay well for anything of a first-class nature, or that which suits them, and I am confident that \$1 per gallon can be obtained.—*Merchant and Viticulturist.*

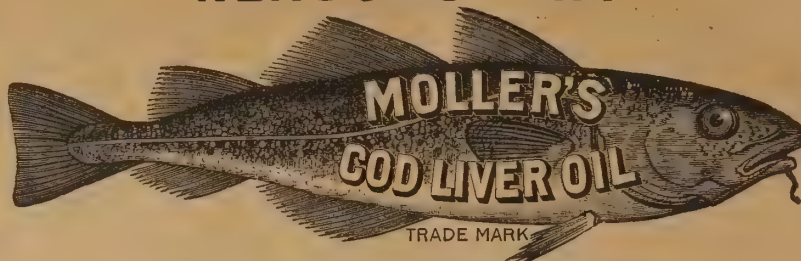
NOISELESS CLOCK.—A Frenchman has invented a noiseless clock, for use, more especially, in sick rooms. In place of the usual pendulum, the hands are set in motion by the unrolling of a chain, the end of which is fastened to a buoy floating in a tank of liquid. This fluid escapes at a uniform rate, and can be utilized to feed a lampwick, thus giving the apparatus the double character of clock and lamp. When the lamp is lighted the necessary diminution of liquid takes place by combustion, and at other times by carefully regulated dropping.

THE WORLD'S SUGAR.—Beet root sugar was produced in European countries during one year, 1887-88, to the extent of 2,427,000 tons. The product of all other lands in cane sugar during the same period was identical in amount. The consumers of sugar *per capita* are in order: England, 66 pounds; United States, 47; France, 23; Switzerland, 21; Holland, 20; Denmark, 19; Germany, 19; Belgium, 18; Norway and Sweden, 17; Austria-Hungary, 11; Greece, 10; Portugal, 9; Russia, 9; Spain, 8; Italy, 7; Turkey, 4; Roumania, 4; Bulgaria, 3; Servia, 3.—*Pharmaceutical Record.*

GOOD SOLICITORS

For Advertisements or Subscriptions can hear of something to their advantage by applying to this office.

REASONS WHY



Should be preferred to all others:

Because—It is genuine-pure, just as it existed in the hepatic cells of the living fish, not depleted of its natural virtues by any process of refining, nor weakened by being made into an emulsion with an equal quantity of water, glycerine, etc., which latter device makes water bring the price of Oil.
Because—In taste and smell it is not offensive, but instead, sweet and agreeable.
Because—Its administration is always followed by satisfactory results.
Because—It is more easily assimilated than other Oils.
Because—It is more nutritious than other Oils.
Because—Of its perfect digestibility, perfect limpidity.
Because—This perfect Oil costs consumers no more than the poorer qualities abounding in the stores.
Because—It is readily obtainable; all well-stocked Drug Stores have it.
Because—It is unquestionably the purest and best COD-LIVER OIL IN THE WORLD.

W. H. SCHIEFFELIN & CO.,
NEW YORK.

Sole Agents for U. S. and Canada.

\$75 CABINET ORGAN for \$5.00

Handsome Black Walnut Case.

\$50 GOLD WATCH for \$2.50

Stem-winder, Lady or Gentleman's size.

\$30 SILK DRESS PATTERN for \$1.00

Any pattern you may select from samples sent on application.

These rich presents, together with your choice from 200 premiums, ranging in value from \$1.00 upward, will be sent FREE, TO ALL YEARLY SUBSCRIBERS to the most popular publication in America. Send 10 cents for sample copy and catalogue of premiums and see what \$1.00 will do before investing that sum.—THE DRAKE PUBLISHING COMPANY, 21 Park Row, New York.



BLAIR'S PILLS

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval round box 14 pills. At all druggists, and 224 William New York.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price.	Analyst.		Price including Regular American Price.	Analyst.
American Rural Home.....	\$1 00	\$1 50	Harper's Weekly.....	\$4 00	\$4 00
American Agriculturist.....	1 50	1 60	Harper's Monthly.....	4 00	3 60
Art Amateur.....	3 50	4 00	Household.....	1 10	1 35
Arthur's Home Magazine.....	1 50	2 00	Housekeeper.....	1 00	1 25
Art Interchange.....	3 00	3 25	Ladies' Home Journal, Philadelphia.....	1 00	1 50
Babyhood.....	1 50	1 60	Ledger, N. Y.....	3 00	3 00
Ballou's Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Cassell's Family Magazine.....	1 50	1 75	National Tribune, Washington.....	1 00	1 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Day, Boston.....	2 00	2 50
Christian Union.....	3 00	3 10	Our Little Ones and Nursery.....	1 50	1 75
Cosmopolitan, N. Y.....	2 40	2 50	Outing, N. Y.....	3 00	3 00
Cottage Hearth.....	1 50	1 50	Peck's Sun.....	2 00	2 25
Country Gentleman.....	2 50	2 50	Peterson's Magazine.....	2 00	2 00
Current Literature.....	3 00	3 00	Popular Science Monthly.....	5 00	4 75
Demorest's Magazine.....	2 00	2 10	Puck.....	5 00	4 50
Family Story Paper.....	3 00	3 00	Rural New Yorker.....	2 00	2 30
Farm and Fireside.....	50	1 00	Saturday Night, Philadelphia.....	3 00	3 00
Fireside Companion.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Forum.....	5 00	5 00	Scientific American.....	3 00	3 25
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Scribner's Magazine.....	3 00	3 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Vick's Illustrated Monthly.....	1 25	1 60
Godey's Lady's Book.....	2 00	2 25	Wide Awake.....	2 40	2 60
Golden Days.....	3 00	3 00	Yankee Blade.....	5 00	1 50
Good Housekeeping.....	2 50	3 00	Young Ladies' Journal, English Edition.....	4 00	3 50
Harper's Bazar.....	4 00	4 00	Youth's Companion.....	1 85	2 25
Harper's Young People.....	2 00	2 25			

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

Trade Marks.

We have had a long experience in the matter of Trade Marks, and protection against Infringements and Imitations. Any further information may be obtained by addressing the

American Analyst,

19 PARK PLACE, NEW YORK.

TO THE CONSUMER!

"PAVONIA BEER"

MANUFACTURED FROM THE
Best Grade of Imported Malt and Hops.

ENTIRELY FREE FROM THE PUNGENT TASTE
OF THE ORDINARY BEERS.

It commends itself to the Consumer as a pure, wholesome and delicate Beer; can be safely used by Invalids.

Specify Export Pavonia Beer, White Label, when ordering

OTIS S. NEALE,

HOWARD STREET,

BOSTON, MASS.

SEE NEW
CLUB RATES

WITH OTHER

JOURNALS,

ON PAGE 572.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

TWELFTH SEASON.

MRS. McELRATH'S

Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams, Pickles and Mince Meat.

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circulars, with references and prices, sent on application. Address,

✂ Mrs. SARAH S. McELRATH, 393 Degraw Street, Brooklyn, N. Y.

Tabasco Pepper Sauce OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

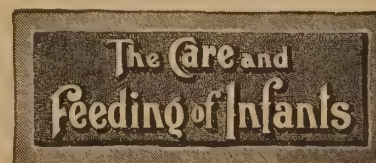
Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.



The Only Perfect Substitute for Mother's Milk.

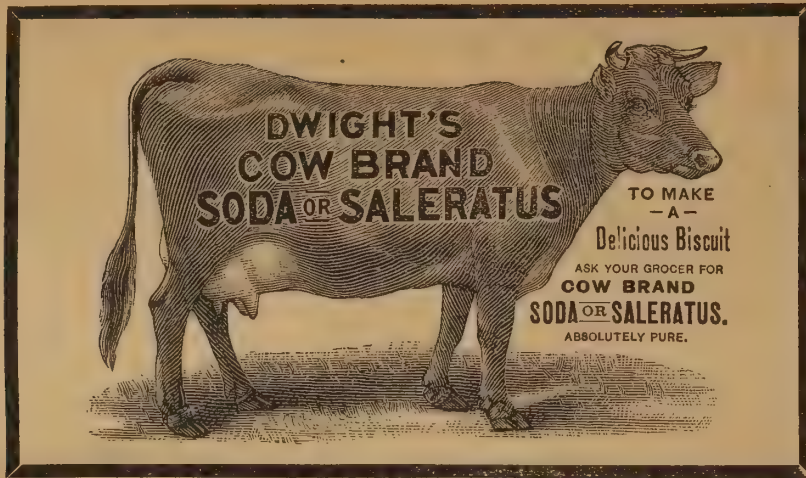
A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.



THE GREAT AMERICAN TEA COMPANY

BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM No. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are Picked from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome

New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of ¾ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be

particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end and what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, only three possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppler's Malt Extract. **WILLIAM ROBERTS, M.D., F.R.S.**

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined. **R. H. CRITTENDEN.**

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain). **MALTINE with Phosphates, Iron Quinine, and Strychnine.**
MALTINE with Alteratives. **MALTINE Ferrated.**
MALTINE with Cod Liver Oil. **MALTO-YERBINE.**
MALTINE with Hypophosphites. **MALTO-VIBURNIN.**
MALTINE with Peptones. **MALTINE with Cascara-Sagrada.**
MALTINE with Pepsin and Pancreatine.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe. We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,

84 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the **AMERICAN ANALYST.**



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 123-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist,

Flat, 125 West 42d Street, NEW YORK CITY, N. Y.
 P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.



Rogers' Royal Herbs.

Cures Constipation, Biliousness, Dyspepsia, Sick Headache and Kidney Troubles. It is the great

LIVER & KIDNEY CURE.

Unequalled for producing a fine complexion. Makes the skin fresh and clear by purifying the blood. Provided you will name this publication and

SEND 10c. we will mail you a trial package; or the regular package for \$1.

Rogers' Royal Remedies Co., 41 Essex Street, Boston, Mass.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEORGE H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

JOHNSON LOCKE MER. CO.

Shipping & Commission Merchants,
SAN FRANCISCO, CAL.

Agency at **PORTLAND, ORE.** Agency at **LOS ANGELES, CAL.**

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins, Walnuts, Almonds, Dried Grapes, Borax, Barley, Mustard Seed, Salmon, Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

❖ **PICTURES.** ❖

All kinds of small pictures enlarged to life-size.

**FINE PORTRAITS IN CRAYON,
 PASTEL, WATER-COLOR,
 OIL, OR INDIA-INK,**
at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
 47 West Twenty-Second St., New York.

Pure LAGER BEER,

**"IMPERIAL" and
 "CULMBACHER"**

Brewed & Bottled

**SPECIALLY FOR
 HOTELS, CLUBS
 AND
 PRIVATE FAMILIES**

Beadleston & Woerz
 291 W. 10th St. New York.

Orders by Postal Card
 promptly attended to.

LEA & PERRINS'
SAUCE.



Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE

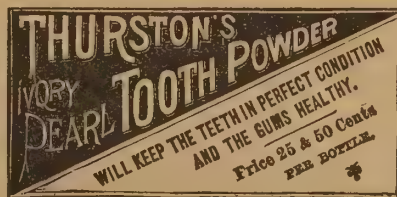
**JAMES CHALMER'S SON'S
 Transparent Gelatine.**

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



Sura Cura **ROBINSON'S SURE CURE FOR RHEUMATISM**
And NEURALGIA,

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
 184 Greenwich Street,
 NEW YORK.



Sura Cura

A CURE

FOR

**Sick and Nervous
 HEADACHES.**



ASK FOR

BROMO-SODA

AND

TAKE NO SUBSTITUTE.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

UNITED STATES DEPARTMENT OF AGRICULTURE.
Washington, D. C.

By an analysis of Dr. Price's Cream Baking Powder I find it carefully compounded, and I regard it as the best baking powder in the market in every respect.

PETER COLLIER,
Late Chemist of the United States Department
of Agriculture.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

COLDEN'S LIQUID BEEF TONIC.

AN INVALUABLE AID IN THE TREATMENT OF
ALL CASES OF DEBILITY.

Established 15 Years. Endorsed by Scores of Physicians.

Essentially Different from all other Beef Tonics.

Beware of Imitations.

COLDEN'S LIQUID BEEF TONIC consists of the Extract of Beef (by Baron Liebig's process), spirit rendered non-injurious to the most delicate stomach by extraction of Fusel Oil, soluble Citrate of Iron, Cinchona, Gentian and simple aromatics. An official analysis of this preparation by the eminent chemist ARTHUR HILL HASSALL, M. D., F. R. S., and an endorsement by SIR ERASMUS WILSON, F. R. S., is printed on the label of each bottle.

Its Range of Action Embraces all Cases of Debility.

By the urgent request of several eminent members of the medical profession, I have added to each wineglassful of this preparation two grains of SOLUBLE CITRATE OF IRON, and which is designated on the label as "No. 1," while the same preparation, without Iron, is designated on the label as "No. 2." It acts directly on the sentient gastric nerves, stimulating the follicles to secretion and gives to weakened individuals that first pre-requisite to an improvement, an appetite.

"I will, upon application, send a sample bottle of Colden's Liquid Beef Tonic to any physician in regular standing. Please ask your Dispensing Druggist (if he has not already a supply) to order it. In prescribing this preparation physicians should be particular to mention "COLDEN'S" viz: "EXT. CARNIS. FL. COMP. (COLDEN)." It is put up in pint bottles and can be had of Wholesale and Retail Druggists generally throughout the United States.

C. N. CRITTENTON, Sole Agent,

115 Fulton Street, N. Y.

Please Mention the AMERICAN ANALYST.

CULTURAL
EXPERIMENT STATION.
1889
UNIVERSITY OF ILLINOIS

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 49.

NEW YORK, THURSDAY, DECEMBER 5, 1889.

WHOLE No. 145

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Adulterations in Europe—Concluded.....	578
American Wool.....	582
California Industries—Continued.....	579
Dressed Beef—No. 2.....	580
Domestic Dietetics.....	582
Editorials.....	577
The Care of Fine Books; The Pen Omnipotent; New Jersey Health; Science, the Civilizer; A Fallacious Panacea.	
Girls as Athletes.....	581
Nuisances in Law.....	579
The Garter, Pro and Con.....	570
The Phonograph Applied.....	581

THE CARE OF FINE BOOKS.

A representative of the AMERICAN ANALYST called upon a well-known bibliophile of this city for information respecting the care of fine books. "A book," said the expert, "is a delicate organization, whose foes are perpetually endeavoring to destroy it, and its foes are simply legion. Water, moisture or dampness on the one hand, and excessive dryness on the other are both extremely injurious. A high temperature dries paper, parchment and leather, and renders them very brittle. In the opposite direction great cold affects books in the same manner, but to a much smaller extent. For this reason a Swede or a Canadian has a harder time with his library than a Frenchman, an Englishman or an American. But the hardest time of all is experienced by the residents of hot climates like Southern India, Egypt, Brazil and Colombia. Another dangerous enemy to all books is what is usually termed mould. This is not a simple vegetable growth, as is popularly believed. Microscopists have discovered over a hundred species of mould with which libraries are afflicted. Some attack paper; others parchment; some fatten on sheepskin, while others prefer morocco for a diet. There is hardly

a substance of any sort used in bookmaking but what has anywhere from two to ten different moulds which find in it a home or a source of nourishment. Insects are a cause of endless trouble. Flies and spiders merely soil books; moths and butterflies lay eggs which hatch into voracious and destructive larvæ. These do any amount of damage. I have seen rare and valuable volumes which had been bored through and through by these minute pests. Ants do little or no harm in temperate latitudes, but are a scourge in the tropics. A colony of white ants has frequently been known to devour not only a library, but also the book-cases in which the books were kept. In providing against these dangers a little common sense will suggest all requisite remedies. A library should be kept clean, well-dusted and thoroughly ventilated. A hard-wood, marble or mosaic floor with rugs is far better than a carpeted one. For the same reason wooden or leather furniture is superior to the handsomest products in silk and wool of the upholsterer's art. In respect to heating, a grate fire either of coal or the old-fashioned one of wood is the best. Dry hot-air from registers or furnaces, is too desiccating, while a gas-stove or oil-stove is ruinous. For fighting mould and insect life there are a number of good methods. Pieces of camphor, menthol and tobacco are of great value. They should be placed in the book-cases on every shelf. Pulverized salicylic acid sprinkled over the books and shelves is probably the best. It is colorless, tasteless and odorless, and has no action either chemical or mechanical upon the books. Spraying a book-case with a weak solution of corrosive sublimate has been recommended, but I do not like the idea of playing with so powerful a poison. Last of all, in using fine books put on a temporary cover before you begin reading."

THE PEN OMNIPOTENT.

The pen constantly proves itself mightier not only than the sword, but than the most deeply rooted institutions of government. From some recent indications it appears to be possible that Mr. George Kennan has performed a service for the people of Russia scarcely second to Czar Alexander II.'s manumission of the serfs. A correspondent of the *Evening Post* writes from Kieff, in Russia, that it is reported there, on authority which cannot reasonably be doubted, that the Russian Government is about to abolish exile to Siberia, both as a penalty for political and criminal offences. This edict of abolition is attributed to two causes—first, to Mr. Kennan's articles, which are impossible of refutation, and which not only affected opinion profoundly in the civilized world outside of Russia, but also brought a good deal of enlightenment to the high circles in Russia itself; and second, to the steady efforts of General Ignatieff, Russian Minister of the Interior, who is said to have long advocated such a measure. If Mr. Kennan's efforts have really met with such a result, his work is to be regarded as one of the most magnificent achievements of the press in this century.

NEW JERSEY HEALTH.

The State Board of Health of New Jersey has ordered a thorough examination to be made of the sanitary condition of all premises where persons lodge or board. This class of premises includes all the hotels, restaurants, boarding houses, colleges and seminaries in the State, whose inmates have no control over the water supply, drainage and other local conditions which may affect their health. This action of the board is one of a series of precautionary measures which are being taken by the State authorities for the promotion of the general health. The inspections will be made under the personal direction of the officers of the State and local boards of health. One of the special features of this movement will be the searching examination which will be made of the premises of all hotels and boarding houses at the seaside resorts in Monmouth, Ocean, Atlantic, Burlington and Cape May counties before the opening of the next summer season. New Jersey is the first State to begin such an inspection by the State Board of Health.

SCIENCE, THE CIVILIZER.

While it is true, as the *Electrical Review* says, that the eloquent words of Lord Salisbury, the British Prime Minister, at a recent dinner of the London Institution of Electrical Engineers, will be read with pride by every individual engaged in electrical work, their significance extends to a far more extensive class than the scientific specialist. In this remarkable speech, the Premier placed electricity before gunpowder, the printing press and even the steam engine itself. In speaking of the electric telegraph, he said: "When you ask what is the effect of the electric telegraph on mankind, I would ask you to think what is the most conspicuous feature in the politics of our time, that occupies the thought of every statesman, and that places the whole future of the civilized world in a condition of doubt and question? It is the existence of those gigantic armies held in leash by the various governments of the world, whose tremendous power may be a guarantee for the happiness of mankind and the maintenance of civilization, but which, on the other side, hold in their hands powers of destruction which are almost equal to the task of levelling civilization to the ground. And what gives those armies their power? What enables them to exist? By what power is it that one single will can control these vast millions of men, and direct their destructive energies at one moment upon one point? What is the condition of simultaneous direction and simultaneous action which alone gives to these vast armies their vast power? It is nothing else than the electric telegraph." In relation to the probable development of the electric motor, Lord Salisbury ventured upon the following prediction: "Now an agent has been discovered by which the force of the steam engine, stiff, confined to its own centre, can be carried along far away from its original source to distances which are already great, and which



science promises to make more considerable still. I do not despair of the result that this distribution of force may scatter those aggregations of humanity, which, I think, it is not one of the highest merits of the discovery of the steam engine to have produced. If ever it shall happen that in the house of the artisan you can turn on power as now you can turn on gas (and there is nothing in the essence of the problem, there is nothing in the facts of the science, as we know them, that shall prevent such a consummation from taking place)—that distribution of power should be so organized—you will then see men and women able to pursue in their own houses many industries which now require the aggregation of the factory. You may, above all, see women and children pursue those industries without that disruption of the family, which is one of the most unhappy results of the present requirements of the industries; and if ever that result shall come from the discoveries of Oersted and Faraday, you may say that they have done more than merely add to the physical force of mankind. They have done much to sustain that unity, that integrity of the family, upon which rest the moral hopes of our race, and the strength of the community to which we belong."

A FALLACIOUS PANACEA.

Despite the fact that the whole fabric of our national organization is directly antagonistic to the principle of "paternal government," there are a large number of visionaries who look with vague longing upon that system as being competent to cure all the evils society as at present constituted is liable to. The tendency in that direction is apparently developing into an organized movement. The original Nationalist Club of Boston, the first organization founded upon ideas suggested by Edward Bellamy's book, "Looking Backward," now has two hundred members, including many active business men. The membership is about equally divided between men and women. The following-named flourishing clubs are definitely organized and many more are in process of organization: California, three in San Francisco, three in Los Angeles, one each in Oakland, San Diego, National City, Pasadena, San Jose, Fullerton, Otay, Ocean View, Kaweah; Colorado, two in Denver; Connecticut, one in Hartford; Illinois, two in Chicago; Iowa, one at Des Moines and Lehigh; Massachusetts, two in Boston, one in Charlestown, one in Lynn; Minnesota, three in Minneapolis; New Hampshire, one in Portsmouth; New York one in Albany, three in New York city; one in Cincinnati and Columbus; Pennsylvania, one in Philadelphia; Washington, two in Tacoma;

District of Columbia, one in Washington. A Nationalist league, formed of the different clubs in the country, will soon be organized.

ADULTERATION IN EUROPE.

SUMMARY OF THE ANTI-ADULTERATION LAWS OF EUROPEAN COUNTRIES.

[Paper presented by Edgar Richards at the annual meeting of the American Public Health Association in Brooklyn, October, 1889.]

Concluded.

SPECIAL PROVISIONS.

These include clear and concise definitions of the different food products, as well as very often an accurate statement of what shall be the minimum chemical composition of such foods or their ingredients. The latter feature, however, is owing to the constant advance made in the methods of chemical analysis, and also, it must be said, to the shifting character of adulterants used, much better left to frequently revised regulations by competent authorities than to the precise wording of a law.

1. *Butter and Cheese.*—These must be made from milk or cream, or both, and with or without common salt. Any admixture of a foreign fat not derived solely from milk makes the product artificial, and it must consequently be so labelled and sold. Most of these countries have special laws on the manufacture and trade in artificial butters (see reports of the Commissioner of Internal Revenue for 1888 and 1889).

2. *Confectionery.*—This must only be colored with harmless materials, such as (black) chinese black; (blues) Berlin blue, indigo, litmus, Prussian blue, saffron blue, ultramarine; (brown) caramel; (greens) chlorophyll (as spinach juice), mixtures of yellow colors with blue (a mixture of Prussian blue, Berlin blue, and Persian berries gives a green rivaling in brilliancy Schweinfurt's green; (reds) annatto, Brazil lac, carmine, carmine lac, cochineal, orseil, the juice of beets and red berries (such as cherries and currants, etc.); (yellows) Avignon berries, curcuma, fustel, marigold, Persian berries, quercitron, safflower, saffron, turmeric, chalk and the ochres. The use of substances known to be injurious to health is forbidden in this and other food commodities. Among these injurious substances are included salts of antimony, arsenic, barium, except the sulphate; bismuth, cadmium, chromium, cobalt, copper, iron, the chloride and sulphate, though most iron salts are harmless; lead, magnesium, nickel, zinc, and some of the potassium and sodium salts; oxalic acid, picric acid, cocculus indicus, (Indian berry, Levant nut), picrotoxine, gamboge, aniline, aloes, eosine, fuchsine and its immediate derivatives; coloring matters containing nitrous vapors, as naphthol yellow, victoria yellow, coloring matters prepared with di-azo compounds.

3. *Distilled Beverages.*—These, (such as kirsch, brandy made from grape residue, from lees, or with juniper berries, gentian, etc.), must only bear the name of "natural" when they are produced by the fermentation and subsequent distillation of the fruit or material of which they bear the name, without any addition whatsoever. The sale of these beverages made artificially with alcohol, or increased by alcohol and other substances, is tolerated, provided the mixture contains nothing injurious to health and is properly labelled.

3. *Flour and Bread.*—The sale of any flour containing ergotized grains is forbidden. The addition of any flour of an inferior value constitutes a fraud if the mixture is not specified. Wheat flour shall be composed entirely of ground wheat, free from bran, perfectly white, or having a faint tinge of yellow; must not show red, grey, or black specks, nor possess a disagreeable odor; must contain no foreign meals, as rye, corn, barley, peas, beans, rice, linseed, buckwheat and potato starch; no alum to disguise the presence of damaged flour in mixtures, or to improve the appearance of an inferior grade, etc.

5. *Fruits and Vegetables.*—The sale of unripe or of rotten fruits or vegetables is forbidden.

6. *Honey.*—Honey must consist of the saccharine substance collected by the bee (*Apis mellifica*) from the nectaries of flowers, and deposited by them in the cells of the comb. It must not contain any added starch-sugar (glucose), cane-sugar or inverted sugar.

7. *Lard.*—This must be made exclusively from the rendered fat of the hog, and must not contain any foreign fats.

8. *Liquors.*—These must be free from unwholesome materials, toxic bitter substances, fuchsine and other coloring matters, etc.; and as they are all artificial products, they must be duly labelled.

9. *Malt Liquors.*—These must consist of the fermented alcoholic infusion of malted barley with water, and flavored with hops. This replacement of these substances by others is considered, if these are inoffensive as a violation of, and, in case they cause injury to health, as an offence against the law. They must not contain antiseptics, salt (except that derived from the water used in brewing), or alkaline bicarbonates. The beer-pumps used must be so fitted as not to produce any alteration in the beverage. The pipes must be as short as possible, and formed of pure block tin. They must be washed out every day with boiling water, and every eighth day with a solution of soda. The air used must be drawn from without and caused to traverse a bed of pounded and sifted charcoal. The whole apparatus must be kept in a state of perfect cleanliness.

10. *Meat.*—Every animal, before being slaughtered, must be inspected by a competent veterinarian, who will issue the necessary health certificate. An inspection is again made when the carcass is ready to cut up, before the removal of the viscera. The inspector will give a permit of sale if he considers the meat sound. Meat is considered injurious which is derived from animals (a) dying from internal disease, (b) poisoned, (c) affected by a contagious disease, or (d) by a malady involving the decomposition of the blood; also all meats containing any parasites, as trichinae, capable of developing in the human body, and all meats entering into putrefaction. The sale of all meat derived from a sick animal is forbidden, whether it may or may not be injurious to health. The slaughtering of calves under sixteen days old, as well as the sale of such veal, is forbidden.

11. *Milk.*—The sale of milk coming from sick cows is prohibited. Persons coming in contact with invalids suffering from contagious diseases should abstain from the handling of milk. The use of vessels of copper, brass, zinc, pottery poorly glazed or made with lead enamel, must be avoided. Places for storing or retailing milk should be clean, airy, and located at a distance from sleeping or sick rooms. The use of carbonate of soda, salicylic and boracic acids or their salts, as well as other materials intended as preservative agents of milk, is prohibited. The removal of cream, the addition of water, foreign fats, or coloring-matter, are considered as adulterations. Milkmen are required to mark upon their cans in an indelible manner the kind of milk they contain: (a) whole (pure) milk; (b) mixed or half-skimmed milk, resulting from the mingling of the skimmed milk, with the morning's whole milk; and (c) skimmed milk, *i. e.*, milk entirely without cream. In the two latter cases milkmen must notify their customers of the character of the product. A specific-gravity test at 15.5 degs. C. (60 degs. Fahr.) of 1.03 is generally recognized as the minimum for pure milk, though chemical analysis is depended upon in cases of dispute.

12. *Spices and Colonial Produce.*—These must be sold in a pure and unmixed condition.

13. *Tinning.*—The tinning of all copper and iron utensils used in the preparation or preservation of foods must be made with pure tin, or one containing not more than one per cent. of lead. Galvanized (*i. e.*, coated with zinc) vessels are not allowed.

14. *Vinegar.*—This must be composed only of acetic

acid, and must not contain any other acid, either mineral or organic.

15. *Wine*.—Nearly every wine-producing country in Europe has special laws on this subject, in which a sharp distinction is drawn between natural and artificial wines. A natural wine is defined as the liquid product which results from the alcoholic fermentation of the juice of fresh grapes without any addition whatsoever. Every wine which has not been made solely from the juice of fresh grapes must be sold under the denomination of "artificial wines." Artificial wines may be divided into two classes,—viz., imitation and demi-wines,—defined as follows: Artificial wines are alcoholic liquids which resemble natural wines, but which are not derived from the fermentation of unnatural grape-juice, and are made with a mixture, such as water, brandy, alcohol, glycerine, sugar, tartaric acid, cœnanthic ether, etc., to imitate wines; demi-wines are those resulting from the addition to the must or natural wine, of water, sugar, alcohol and other substances, intended to produce the taste or appearance of wine in such diluted and attenuated liquids, or made in the same manner with grape marc, already used in the preparation of must. Provisions are made for the proper branding and labelling of all vessels and packages containing wine, and for distinctive way-bills, invoices, etc., used in the shipment and the sale of wines. All wines not labelled as artificial are considered as being genuine wines, and severe penalties are imposed for violations of this provision.

CALIFORNIA INDUSTRIES.

THE REMARKABLE PRODUCING CAPACITIES OF THE
GOLDEN STATE.

(Continued.)

Monterey County is about 100 miles south of San Francisco. It has an area of 3,600 square miles, or more than two and a quarter million acres. It is four times as large as Rhode Island and twice as large as Delaware, or one-fourth larger than these two States combined. The population of those two States is nearly half a million of people; Monterey County has not quite eighteen thousand. The county consists of the Salinas Valley, more than one hundred miles in length and from three to fifteen miles in width. The Gabilan Mountains are on the east and the Santa Lucia Mountains on the west, with the Pacific Ocean forming its western boundary. This is the banner grain county of the State. Wheat, barley and oats are its principal crops. Hay made from the wild oat, beans, potatoes, buckwheat, mustard, rye, corn, peas and other vegetables, melons, citrons and deciduous fruits, grapes, berries, olives, almonds and other nuts, sugar beets, etc., are successfully raised. There are immense deposits of limestone and some fine coal. Quicksilver, asphaltum, gold and silver have also been found. This section of the Pacific coast is said to be rougher than any other part of California, and these mountains bear testimony of a fearful contortion of the earth's surface. In this vast mountain area of about fifteen hundred square miles there is produced a considerable growth of pine, while many of the cañons near the coast are densely covered with redwood. Most of this area is grazing land, and much of it adapted to agriculture. In these mountains are found some of the finest trout streams, and deer are numerous. Quail, wild pigeons and rabbits are to be found without hunting. Grizzly bears were numerous here in earlier days, but are seldom seen now. The leading industrial features of Monterey County are stock raising, dairying, agriculture, horticulture and mining. The sheep industry has been on the down grade for several years. Cattle and horses are raised by the thousand. Hogs are raised to a limited extent, fattening from acorns. The grain crop last year, half wheat and half barley, amounted to 70,000 tons, or two and a third million bushels. The average yield is twenty bushels

of wheat and thirty bushels of barley to the acre. As much as forty bushels of wheat and sixty bushels of barley are not unusual yields under favorable circumstances. There are in this county some of the finest vegetable lands in the world. On one ranch thirty-one potatoes were dug which filled a large barley sack, and weighed more than one hundred pounds. The coming agricultural industry, however, is raising sugar beets. The factory erected by Claus Spreckels at Watsonville in an adjoining county, has stimulated this industry. Some of the beets raised in the Salinas Valley went as high as twenty-two per cent. of sugar, and none lower than eighteen per cent. The yield is from ten to twenty tons per acre, worth six dollars a ton. A factory is to be built in Salinas with a capacity of five hundred tons a day, requiring five thousand acres of beets to run it. Apples, pears, all kinds of pitted fruits, vines, citrus fruits, olive and almond trees, all do well. At Salinas is one of the largest flouring mills in the State, with a daily capacity of five hundred barrels. The lumber interests of the country are also important. Besides the redwood, oak and pine already mentioned, there are the yellow, nut, Monterey and Coulter's pine, western juniper or cedar, arbor vitae, live oak, chestnut oak, white oak, cañon live oak, Monterey cypress, Gove cypress, laurel, madrone, manzanita, mescale, sycamore, willow, cottonwood, buckeye and many other trees. Among some of the remarkable plants found here are the amole or soap plant, the mistletoe, Spanish moss, yerba buena and yerba santa (valuable in medicine). The Hotel del Monte, the queen of American watering places, is situated on Monterey Bay. The celebrated Los Burros gold mines are also located in this county. While we have not given many statistical figures in this article, we have shown that Monterey County is not in any way behind her sister counties in contributing to the wealth of the Golden State.

(To be continued.)

NUISANCES IN LAW.

A BRIEF INQUIRY INTO THE LEGAL MEANING OF THE
WORD NUISANCE.

The law relative to the abatement of nuisances rests on one of the most fundamental principles of government: Every man shall so use his own as not to injure another in the enjoyment of his rights. We call Government a "social compact." In the savage state society is a jungle for wild beasts, in which every rattlesnake has an inalienable right to bite, when life is a battle—a struggle for existence. Society is organized to do away with this struggle and to guarantee to all equal rights. We form a social compact. I give up my liberty to murder you and you give up your liberty to murder me. Your hobby may be a hog-pen, another's a cess-pool, mine a slaughter-house, but we mutually give up our liberty to injure one another with our hog-pens, cess-pools and slaughter-houses. Strictly speaking, any use of property annoying to another's rights is a nuisance. Two things are necessary: a right and an injury. No matter how much your refined taste may be violated by the architectural structure of your neighbor's house, it is not a nuisance, because no right is violated. So I may not like the looks of your pig-pen, but I can look the other way. When, however, your pig-pen gives off offensive odors it is a nuisance, because every man has a right to pure air. There must be not simply a violation of a right to constitute a nuisance, but the violation of the right must make somebody uncomfortable. One cannot urge that he is especially dainty or fastidious, but any use of property which renders uncomfortable a plain ordinary American is a nuisance. The nuisance need not be injurious to health; it is enough if it is annoying to the senses. Nuisances are sometimes classified as public, private, and mixed,—the latter being a public nuisance in which some private person is entitled to special damages

for some special injury. Nuisances are also classified as (1) nuisances *per se*—in themselves, and (2) occupations which may become nuisances through neglect or improper use. Decaying matter is a nuisance in itself; a slaughter-house may become such because of its improper location. Most nuisances may be classified as violations either of our rights to pure air or pure water. Every man has a right to air uncontaminated by noxious vapors, odors, and noises. Among the trades which under certain circumstances have been declared to be nuisances because of the contamination noxious vapors may be mentioned: Bone mills, chemical works, veterinary stables (where horse's hoofs were burned), dye houses—all legitimate occupations but carried on so near dwellings as to interfere with rights to pure air. The courts have held that a blacksmith's shop was a nuisance when the cinders discolored well-water and entered an adjoining house; glass works are nuisances when the smoke from them produces an unpleasant taste in the mouth, also lead works and breweries which give off noxious vapors. If a neighbor is cultivating foreign plants, smoke which destroys them is a nuisance even though this smoke is not injurious to ordinary vegetation. Among those occupations which are nuisances because of the offensive odors which they give off may be mentioned: Tallow factories, soap factories, tanneries, boiling carrion, pig-pens, vaults, cess-pools and slaughter-houses. A slaughter-house located in the suburbs of the city may not be a nuisance, but if the city grows out to it it may become one. Dust in the air may become a nuisance, also a hospital located in a public place. Livery stables may become nuisances because of offensive stenches, the collection of flies, or the noise of horses' feet. Thus we see that our rights may be violated by noises, dogs barking at night, the shop of a tinsmith who works nights, discharging guns, singing at unreasonable hours are nuisances. If your neighbor "blows on a cracked clarinet" it is a nuisance. Brass bands and whirligigs have been declared to be nuisances. You see how careful the courts are to guard the rights of man to air uncontaminated by vapors odors and noises. Every man has a right to pure water. Polluting rivers used for drinking purposes by refuse from mill, brewery, or sewer is a nuisance. It has been declared a nuisance where the contents of a vault percolate into a neighbor's well.

RATHER DISAPPOINTED.—A gentleman who returned from Havana a few days ago informs us that the English syndicate which purchased several cigar factories there are not hungry for more. Profits have not been what they expected.—*Tobacco Leaf*.

USEFUL INVENTION.—A very useful invention, tending to lessen the possibility of accidents in factories, is now being extensively adopted in England. The break-ieg of a glass, which is adjusted against the wall of every room in the mill, will at once stop the engine, an electric current being established between the room and the throttle valve of the engine, shutting off the steam in an instant. By this means the engine was stopped at one of the mills recently in a few seconds, and a young girl, whose clothes had become entangled in an upright shaft, was released uninjured.

A HEAVY CONTRACT.—"I want employment," said a desperate man, entering a Market Street cigar store. "All right," said the proprietor, calling an employee; "give this man a Lancaster County cigar and plenty of matches."—*Philadelphia Record*.

A RURAL RISK.—It will not add to the peace of mind of the many lonely night operators of this country if it becomes fashionable in insane circles to visit telegraph offices in country towns. The recent battle for life that a telegraph operator in Connecticut had with an escaped maniac was an experience he will never forget, and only the timely arrival of a railroad track watchman saved the dot and dash artist from death. We suspect there will be few unarmed night operators hereafter.—*Electrical Review*.

A FOOLISH TOY.—Smoking dolls for the holidays, imported from Paris, and costing fifty dollars, are the latest fads. They smoke with a charm that is entertaining to behold.—*Newsman*.

THE GARTER, PRO AND CON.

ITS HISTORY, UTILITY, AND ALLEGED HARMFULNESS.

A writer in the London *Truth* says he suspects there is no better way for doctors to get their names well before the public than by abusing the most time-honored garments of their lady patients. We know how the stays have been pulled about by medical critics, he says, and now they have held their own and kept their shape in spite of all the efforts of their opponents. I now hear that the English doctors at a recent congress have been handling garters roughly on the pretext that they injure the circulation of the blood. But how are stockings to be worn if garters are to be discarded? As our foremothers for centuries were gartered, and not only a few complained of the varicose veins, it strikes me that the evil lies not so much in the wearing of the garter as the way in which it is worn. It may be a loose fit (which does just as well to keep the stocking from falling or getting wrinkled at the ankles) or it may be a tight fit, which of course is injurious. I have been interviewing a couple of weavers of surgical stockings for persons troubled with varicose veins. Would it surprise you to hear that the greater number of their customers never wore garters since their childhood, they being of the non-gentle sex! Perhaps this is because sons take after their mothers, and inherit their acquired weakness in exaggerated forms. Nor is it persons who walk the most that want these special stockings. The demand for them is chiefly made by full-fed men who lead sedentary lives and drink more wine than is good for them. A wearer of the anti-varicose stocking feels worse after a series of dinner parties, when the tempting varieties of the menu lead him to indulge too freely in the pleasures of the palate. It is rather odd that the crusade against the garter has not been made at a ladies' congress. My notion was that it belonged to the topics which should only be discussed at Eleusis, until I found that a congress of doctors took it up. I have been round to museums to ascertain to what remote antiquity we owe the garter. Chatelaines, in the Gothic times, before knitting was invented, used to wear in cold weather, gaiters made of warm stuffs covered with silk embroidery, and laced at the sides. I fancy that stockings were rarities when the Countess of Salisbury dropped her garter, to the scandal of the ladies of Queen Philippa's Court, and that the few which were displayed there came from Flanders, and were lacy-looking articles. An antiquarian has been showing me an old Flemish garter in goffered leather, with a handsomely embossed silver clasp, representing St. Martin and the beggar. What that high-spirited and generous saint had to do with garters my friend is at a loss to think. Garters at any rate, were not so hidden as is generally supposed when Edward III. instituted a Guard of Honor for those of the Countess of Salisbury. They were shown by ladies who went out riding to hawk. When the side-saddle later came in it did not involve the use of the long riding habit, and so the leg-gear meant to be used on horseback became of more costly and curious workmanship. Brantome casts side lights on the grand and proper dames who were aided by their valets-de-chambre to dress for the hunting field and were particular in learning from them how their *chausses*, (shorts,) *chaussettes*, (stockings,) and garters impressed them. A garter was adorned with armorial bearings or with fanciful conceits. They were often richly jeweled and might have served as armlets for knights who gloried in displaying such tokens. At weddings, brides' garters were cut up and the pieces given to the young men who attended. They wore them as decorations. In Italy and the South of Spain, when stockings came in there, daggers were stuck by the wearers thereof into their garters, a sign that they wanted no order of chivalry to defend them. A very beautiful English lady whom I knew tried some years ago to revive this fashion in Florence. Her husband had deserted her, and she had to go about with a kind of *cavalier servente*. As she spoke much of her dag-

ger, sometimes allowed part of it to be seen, and was lovely as she could be, she found imitators. But they were not Lucretias. The garter, I find, is becoming more than ever an *objet de luxe*. When it is so it is got up with exquisite taste. There are garter *ecrins* for dressing tables as there are bracelet *ecrins*. Jewelry enters into the arrangement of elastic band and quilted silk. So does skilled needlework. I am told that the *article de Paris* which is to top the market at the opening of 1890 will be the garter. In the United States there is a movement in favor of ribbed socks for ladies. Those who promote it must have lovely skins. I do not see why the sock should not dethrone the long stocking. There is really no indelicacy in going without stockings, as every one must have observed who has watched the humors of a French watering place where there are extensive sands. Canvas buskins protect the feet, but legs are bare and the skirts are trundled up to the knees. French seigneurs went to England to enjoy themselves at the court of the merry monarch, extolled the beauty of the bare legs which they saw at Tunbridge Wells. English farmers and shopkeepers' daughters then preferred to go without stockings when they could not get them of the finest quality, and in their neatly-made shoes and short, tidy skirts, they presented an agreeable contrast to the French women who wore clumsy hosiery and clumsy sabots. Under Louis XIV. fine lords were as handsomely gartered as Court belles, who, however, did not show their garters unless they made journeys on horseback in masculine habiliments. This mode of travelling was not unusual, the roads being too bad for carriages, and the side-saddle being too fatiguing to the horse. I dare say the garter will look up wherever there are lady cyclists. It need not press against the limb that it encircles. Why not wear stockings wrinkled, like the mousquetaire gloves of Sarah Bernhardt? To do so would do away with the temptation to have tight garters.

DRESSED BEEF.

No. 2.

LEADING REPRESENTATIVES OF THE INDUSTRY.

CHICAGO, Nov. 19, 1889.

SWIFT & COMPANY.

This firm are among the largest slaughterers of cattle, hogs and sheep, and their establishments cover many acres of ground. The firm began business in 1877, and were incorporated April 1, 1885. The company is officered as follows: President, G. F. Swift; Vice-President, E. C. Swift; Treasurer, L. F. Swift; Secretary, D. E. Hartwell. The firm do an extensive business as packers of pork and shippers of beef and mutton. Their general office is at the Union Stock Yards, and they are right in the heart of the greatest live stock market in the world. They also have offices at South Omaha, Nebraska, and Kansas City, Missouri. This gives them the advantage of the three largest live stock markets in the country in which to buy for their slaughter and packing houses. In order to give an idea of the volume of business transacted by this firm, it is only necessary to state that in 1888, Swift and Company slaughtered 678,937 cattle, 573,230 sheep and 359,195 hogs.

NELSON MORRIS & CO.

The house of Nelson Morris & Co. started business in 1880, with a capital of \$50,000. This was soon increased to \$250,000, then to \$750,000, and last year to \$3,000,000, which is now the capital stock of the company. But this large sum does not include the capital used in exporting cattle by Mr. Nelson Morris himself. The slaughter, packing and refrigerator houses cover thirteen acres of ground, and they are all two and three stories high. The first year the firm were in business they killed 75,000 head of cattle. In 1886 they killed

344,487; in 1887, 433,563; in 1888, 468,498 head, and in 1889 they confidently expect to exceed half a million head of cattle. They are killing now on an average of 2,500 head of cattle per day, about 800 head of sheep and 300 head of hogs. They employ in the neighborhood of 3,100 hands, and pay out \$38,000 per week in wages. Morris & Co. own and have in constant use 1,000 refrigerating cars. In the use of these cars three hundred tons of natural ice are consumed daily, and beef is kept in these cars in as good condition as when taken out of the refrigerator house, though shipped a thousand miles. But it is not alone to this country that Nelson Morris & Co. confine their operations. Two train loads of dressed beef are shipped each week to London and Liverpool. These shipments take from 800 to 1,000 head per week, and to that extent is the home market relieved of its surplus. This meat is all canvassed, conveyed to the seaboard in refrigerator cars, and loaded on steamships specially provided with refrigerator compartments and natural ice. Nelson Morris & Co. are extensive canners of beef, and sell in all countries of Europe, the South Sea Islands, Caribbean Sea, etc. Last year they sold 734,550 cans of meats of all descriptions. Many of these cans weighed up to ten pounds.

ARMOUR & CO.,

were among the first to embark in the pork packing and dressed beef business at the Union Stock Yards. P. D. Armour, the head of the firm, is one of the best known men in the United States, if not in the entire world. He rarely visits the Stock Yards now, his business keeping him at the down-town office, but he has an able lieutenant on the grounds, in the person of Michael Cudahy, a member of the firm, who supervises all the transactions at their vast slaughtering and packing houses, and who keeps a vigilant eye on everything. Mr. Cudahy is a thorough business man, and much of the success achieved by the firm is due to his superior practical intelligence and vigilant supervision over the work at the yards. Young Mr. J. O. Armour promises to follow in the footsteps of his father. He is now well up in the mysteries of the business, dividing his time between the down-town office and the office at the yards, so that in the natural order of things, he will be fully competent and well prepared to fill the shoes of his distinguished sire, and maintain the high standard of business now so thoroughly established and widely diffused by the house of Armour & Co. That our readers may understand more fully the vastness of the business transacted by Armour & Co., we give a few facts regarding the area of the buildings, animals killed, etc., during 1888. Total ground area covered by buildings, 40 acres; total floor area in buildings, 125 acres; chill room and cold storage area, 30 acres; storage capacity of buildings, 120,000 tons; refrigerator cars, 1,800; hogs killed, 1,140,000; cattle killed, 561,200; sheep killed, 164,540; number of employes, winter, 6,000; summer, 5,000; wages paid for the year 1888, \$3,000,000. During 1888 the Armour Glue Works turned out 6,000,000 pounds of glue, 4,000,000 pounds of oil and grease, 7,000 tons of bone meal and other fertilizers. Five hundred men are employed at the glue works, and the buildings cover an area of 11 acres. Vast as is the above showing, the year 1889 promises to even surpass it. The number of animals killed will show a large increase, while the firm have recently added by purchase, to their already very extensive area of ground and buildings.

GEORGE H. HAMMOND & CO.

The business of George H. Hammond & Co., as now conducted at Hammond, Ind., was organized in the year 1869 by Mr. Geo. H. Hammond in connection with Mr. Caleb Ives. A refrigerator car had been patented in the City of Detroit, more particularly for handling fresh fish, but the scheme of shipping dressed beef in the car looked so feasible that experiments were at once commenced by Mr. Hammond, who started the first shipment of dressed beef during the above named year. Experiments were continued for perhaps six months or a year, which proved successful and ten cars were ordered

built. These were constructed by the Michigan Car Company, at Detroit, and the killing was continued at Chicago for a year or two, until the number of cars was increased, and it was determined to locate on the Calumet River in Indiana, the facilities for procuring an ample supply of ice there, seeming very favorable. Some few changes in the company were made during the interval until 1781, when it was incorporated, its principal offices being in Detroit, the home of Mr. Hammond. The business has increased from year to year, until the company now operate and own some 750 refrigerator cars; kill about 225,000 cattle per year at Hammond, have a storage capacity for about 17,000 tons of ice, and use about 100,000 tons annually. They now employ in the conduct of the business at Hammond something over 600 men. They have invested in the plant and machinery over half a million dollars. They also operate a large elomargarine factory in connection with the slaughtering establishment, which has a capacity for turning out from 30,000 to 40,000 pounds of the manufactured product per day. Every portion of the animal is utilized, even to the tank water, from which glue is manufactured. The business has steadily increased every year since it was established, the increase of 1888 over 1887 aggregating about 10,000,000 pounds of beef, or say 500 carloads per day, and the increase for 1889 will be approximately greater. The officers at the present time are: Andrew Comstock, President; J. C. Melvin, Vice-President; G. W. Simpson, General Manager; J. D. Standish, Secretary and Treasurer.

THE PHONOGRAPH.

SOME SUGGESTIONS AS TO ITS POSSIBLE PRACTICAL USE.

Now that the phonograph is approaching the degree of perfection which will permit its universal introduction, the question is beginning to be mooted as to what useful purpose it can, after all, be made to serve. There are not wanting in the community intelligent persons who regard the phonograph simply as a curiosity; wonderful, even in this age of wonderful scientific achievement, but likely to be capable of very limited practical utility. These persons, however, are premature in arriving at such fixed conclusions on the subject, as the instrument is yet in its infancy, and its marvellous properties invest it with wondrous suggestiveness as to the benefits it will ultimately confer on mankind. The subject has been brought to our attention by several newspaper paragraphs that have appeared within the past couple of weeks, indicating a disposition in business circles to bring the phonograph into practical use without delay. For the information of the readers of the AMERICAN ANALYST we have compiled some of these, but we recommend such as are desirous of knowing all that is claimed for the invention to refer to a detailed discussion of the subject by Mr. Edison himself and published in *The Forum* some months ago:

The Possibilities of the Phonograph.

Edward Bellamy, the author of "Looking Backward," has just written a fanciful sketch entitled, "With the Eyes Shut," in which he describes an approaching phonographic age. The uses which are found for the phonograph are novel and amusing. Passengers on the railway trains are supplied with phonographic literature so that their eyes are not injured by reading in a jolting coach. The names of the stations are announced by phonograph in clear tones which form a striking contrast to the incomprehensible gibberish of the ordinary brakeman. Mr. Bellamy describes a night's experience in a hotel. He was startled from his dreams by the sound of a voice. He continues: "What had startled me was the voice of a young woman who could not have been standing more than ten feet from my bed. If the tones of her voice were any guide she was not only a young woman but a very charming one. 'My dear sir,' she had said, 'you

may possibly be interested in knowing that it wants just a quarter of three.' His terror vanished when he discovered that the voice issued from a clock which was equipped with a phonographic announcing apparatus.

A Physician's Novel Suggestion.

Dr. A. H. Phelps, of Glens Falls, suggests that Mr. Edison build a phonograph large enough to send the sound of the human voice or of instruments several miles, and place one of the great phonographs in the World's Fair to be held in New York in 1892, so that the people in Brooklyn and Jersey City could hear the records reproduced.

An Adjunct to Stenography.

"Even if the phonograph, or any of the kindred machines, could do all that is claimed for it," remarked a prominent stenographer the other day, "it would not affect stenographers adversely in the least. Indeed, it would be welcomed with open arms by the court reporters, as they could then dictate their matter when they pleased, and as fast as they could read their notes. Transcribing a day's testimony, you know, is a most tedious and tiresome thing, and usually a busy reporter has two or three amanuenses to whom he dictates his matter, but, of course, he must go slow on account of the inability of his amanuensis to take it correctly at a rapid rate. And as to the amanuensis stenographers, I fail to see how it can hurt even them. When the typewriter was introduced it was not favorably received by amanuenses, but now typewriting and shorthand are inseparable. In my opinion, when the phonograph is perfected sufficiently it will be used as an adjunct to shorthand and typewriting."

Phonographs for Post Offices.

On November 22, Lawyer Edwin M. Fox returned from Mexico, whither he went in the interest of Thomas A. Edison to arrange the legal features of a contract with the Government for the general introduction of the phonograph in the post offices of that country.

The contract was obtained for a company now forming. It gives the proposed company the exclusive right for fifteen years to place phonographs in the post offices of the Republic for the use of people who cannot read or write. The charge for a single phonographic message has not yet been fixed; it may be but a medio, or six and a half cents, and it may be a real, or thirteen cents. To this charge must be added one of ten cents for postage, which is the rate at which letters are carried from one part of Mexico to another, although a letter may be sent from Mexico to this country for only five cents. The higher charge seems moderate when it is known that the sender of a message will be entitled to talk a thousand words into the phonograph. When he has said his say, the cylinder containing his message will be enclosed in a paper box, addressed by a Post Office clerk to its destination, and, after being stamped, will be mailed like an ordinary letter. The recipient of the cylinder can either have the message spoken out to him by the phonograph in the nearest post office, or he can have it transcribed on paper for future reference. The persons who are expected to use the phonograph now employ scribes to write their letters for them. The scribes will probably have to do something else when the phonographs are set up. The company is to get a rental for the use of the machines, and what remains of the proceeds after deducting a small percentage for the Government. As all expenses are to be borne by the company, whatever the Government gets will be clear gain. Only the large post offices will at first be provided with phonographs, but it is expected that in the course of time the use of the instruments will become quite general. Mr. Fox took three phonographs to Mexico with him, one as a present for President Diaz, which poured out the instrumental and other music Mr. Edison had poured into it at the laboratory in Orange, where concerts are still given, with phonographs for auditors, several times a week. President Diaz was quick to learn how to use the machine, and he sent back by Mr.

Fox a cylinder containing a message in Spanish congratulating Mr. Edison on his great invention and himself that Mexico was to get the benefit of it.

Machines Preferable to Stupidity.

The November number of *The Office* has a long and well-considered article on the relations of clerks to the new mechanical devices of the day, from which we extract the following: "The young man who seeks a business position simply on the strength of his penmanship—no matter how good it is—having nothing else to recommend him, will fail. The typewriter is there ahead of him. The young man who seeks to make a living by simply putting on paper, machine fashion, what is spoken in his hearing, caring nothing about what it means and having no interest in the work except to draw his weekly stipend, must take very low wages because he is competing with the phonograph and graphophone. Again, the entry clerk, the cashier or the book-keeper who puts neither brains nor business snap into his work must likewise fail of success, because mechanical devices on every side are gradually but surely doing all the work that he is fit to do. Machines work when they are driven. They must be wound up or have power applied to them in some other way. Men, on the other hand—that is, men deserving the name—can go without driving."

GIRLS AS ATHLETES.

NECESSITY FOR CAUTION WHEN PRACTICING IN A GYMNASIUM.

"Girls should never be allowed in a gymnasium unless they are in charge of a thorough master of calisthenics and gymnastics," said a professor to a reporter recently. "It may seem strange to say, but the girls are more daring and much more reckless than boys when they get the athletic fever. It seems to be very catching nowadays. Only a short time ago a young lady came into this gymnasium. She had never been in a gymnasium before. As soon as she got her suit on she was trying to pull herself upon a horizontal bar, and before I could stop her she had strained the tendons in both arms and couldn't come back to exercise again for nearly three months. Girls have to take much more systematic training than boys. They are not so strong and have to be treated more tenderly. There are hundreds of ways in which a girl can hurt herself in a gymnasium unless she is very careful. She can strain her arms and hands by too much exercise at anything. She can sprain her back by jumping too far on the spring board. I have known girls to sprain their toes in the running high jump even when the bar was only a foot from the ground. High-heeled shoes press the toes downward and girls who wear them always land on their toes when they jump instead of the ball of the foot." "What exercise should a girl practice at home?" asked the reporter. "Gymnastics, to be healthful, should only take a portion of the strength of one's muscle, and the constant exercise of these muscles is what develops them. I have seen some delicate girls exercising with five-pound dumb bells, when some of the strongest athletes of the country only use two-pounders. A girl who wishes to expand her chest can do so if, each morning after her bath, she will stand erect, feet together, shoulders back, arms straight down, and take twenty-five full, deep breaths. Better begin fifteen times the first week and then gradually increase it. Keep up the increase until it reaches the number of fifty. By that time her lungs will be much stronger and the chest will begin to expand. A round-shouldered girl can become straight by moving the shoulders and arms backward in regular motions until the elbows are only a few inches apart. Let the first exercise be twenty times and increase it until 125 times can be done without fatigue. The throat can be made round and firm by judicious exercise of the head. I make my throat pupils throw the head far back and then forward slowly,

and then from side to side in the same way. There is no reason why any girl or woman not deformed, and about 25 or 30 years of age, should not have a graceful and well developed figure, and gymnastics will give it to her, but not unless she is taught them properly.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

December.

MEAT.—Beef, mutton, pork, venison, veal.

POULTRY AND GAME.—Chickens, fowls, ducks, geese, turkeys, grouse, capons, hare, rabbit, partridge, pheasants, pea-fowl, Guinea-fowl, snipe, widgeon, wild duck, woodcock.

FISH.—Brill, carp, cod, crabs, perch, salmon, smelts, soles, sprats, tench, turbot, whiting, halibut, sturgeon, oysters.

VEGETABLES.—Jerusalem artichokes, beets, broccoli, cabbage, carrots, celery, endive, winter spinach, eschallots, turnips.

FRUIT.—Apples, oranges, bananas, nuts.

PRACTICAL RECIPES.

HERB SOUP.—Put four ounces of butter in a saucepan, with a handful each of chopped onions, celery, turnips and carrots; add a little salt and pepper, and let them steam for half an hour, but be careful that they do not burn; pour in a quart of clear soup or the water in which meat has been boiled; cook gently until the vegetables are soft, thicken a little with flour, and serve with toasted bread.

CHESTNUT STUFFING.—Chestnuts, roasted or boiled, may be added to almost any stuffing for fowl, etc. To prepare a stuffing, roast a pint of chestnuts and peel off the outer and inner skin; weigh them, and simmer half a pound of them for twenty minutes in as much veal gravy as will cover them; drain and let them cool; then pound them in a mortar with four ounces of butter, three ounces of bread crumbs, a trifle of grated lemon peel and powdered mace, salt and a pinch of cayenne; bind the mixture with the yolks of three eggs.

BREAD STUFFING.—Grate sufficient bread to fill the bird; moisten with milk, and season with salt, pepper, sweet marjoram and the grated rind of one lemon; add a tablespoonful of butter, and bind the mixture with yolk of egg; add a few raw whole oysters, if desired.

STEWED TRIPE.—Take a pound of tripe and cut it into narrow strips, put it in a saucepan, and cover it with gravy stock; add about a third of a can of tomatoes, some chopped onion, a dash of olive oil, Worcestershire sauce, and a whole red pepper, salt and pepper; stew gently until very tender and rich; serve.

CHOCOLATE TARTS.—Put one-half cup milk and one-half cup water over the fire in a bright saucepan; add one cupful sugar, one teaspoonful butter, pinch of soda, one-half cake grated chocolate; then, when it boils, add one-third cup of water, in which has been dissolved one tablespoonful of corn starch; let the whole boil for a few moments and take from the stove; when cool add teaspoonful extract of vanilla. This will make about a dozen tarts. Line patty pans with good flaky pie crust and bake; when done put in this mixture, ice the tops, and let the frosting harden in the open air.

RISSOLES.—Mince finely the remains of cold veal or any left-over meat from which all skin, bone and gristle have been removed; season to taste with pepper, salt, spices, grated lemon peel, sauces; moisten with beaten egg or cold stock, and form into little balls; roll out very thin some good pastry, cut into round pieces large

enough to enclose the balls; pinch the edges firmly over the meat, brush with beaten egg and fry in boiling fat; when a fine brown drain out the rissoles, and serve dry and crisp on a napkin.

SILVER CAKE.—One cupful of sugar, half a cup of butter, the whites of three eggs, half a cup of corn starch dissolved in nearly half a cup of milk, one and a fourth cupfuls of flour, half a teaspoon of cream of tartar, one-fourth of a teaspoon of soda, and vanilla or almond flavor; beat the butter to a cream, and gradually beat in the sugar; add the flavor; mix the flour, cream of tartar and soda together and sift; beat the whites to a stiff froth; add the corn-starch and milk to the beaten sugar and butter; then add the whites of the eggs and the flour; mix quickly and thoroughly; have the batter in sheets, and about two inches deep; bake in a moderate oven for about half an hour; cover with white or chocolate icing.

CORN GEMS.—One-half a pint finely-bolted corn meal, one-half pint flour, one tablespoonful white sugar, half a teaspoon of salt and two heaping teaspoonfuls of Horsford's baking powder; mix together thoroughly while dry; then add two well-beaten eggs and cold sweet milk, or milk and water, to make a moderately thin batter; bake in gem pans or muffin rings.

ALDEN'S MANIFOLD CYCLOPEDIA.

We are pleased to note the appearance of the nineteenth volume of the admirable Alden's Manifold Cyclopaedia. It was apparent from the first that this was to be the Cyclopaedia for "the people," and each succeeding volume emphasizes the great superiority of the work for popular use over its far more costly competitors. It is remarkably comprehensive. The fields of literature, science, art, and of all knowledge are thoroughly gleaned. The topics are ably treated, many illustrations are given, and a vast amount of information is condensed into small space. The articles are written by experts in their various lines and are carefully and skilfully edited. The results of the latest discoveries and inventions appear, many of the subjects being brought down to June, 1889, and some even later. Among the important topics treated in this volume we notice Home Rule in Ireland; Homestead Entry, and the Homestead Laws for all the States; Homeopathy, nearly 7 pages; Hop; Horology; Horse, Horse Racing; Horse Shoeing, and Horse Taming; Hospitals, 8 pages; Howard University; Hydropathy, over 6 pages; Hypnotism, 4 pages; Hysteria; Ice; Immigration, with valuable statistics; Imports and Exports, with figures for the United States covering 100 years and brought down to June, 1889; Indians, 7 pages; Induction of Electric Currents, 8 pages. In the line of biography we find articles on Homer; Hood; Hopkins; Horace; Howard; Howells; Hugo; Humboldt; Hume, and Hunt; while among the Countries and States noted are Honduras; Hungary; Iceland; Idaho; Illinois; India, 35 pages; Indiana, 8 pages; and Indian Territory, including the opening of Oklahoma. The price of this great work is almost incredibly low.

AMERICAN WOOL.

THE INITIATION OF WOOL RAISING IN THE UNITED STATES.

The first sheep introduced into the United States were taken to Jamestown, Virginia, in 1609. Great efforts were made to encourage the woolen industry, and some years later a law was passed which compelled every family to spin three pounds of wool, cotton or flax per week during thirty weeks of the year. About the same time the first weaver settled in the country and received a grant of thirty acres of valuable land. In 1662, Virginia prohibited the exportation of wool, and offered five pounds of tobacco as a premium for every yard of woolen tissue produced in the colony.

The breed of the sheep at the time in America was, however, inferior, and it was not until the commencement of the present century that the Spanish government consented to sell a flock of fine merino sheep at an exorbitant price for exportation to America. It is stated that even in 1810 there were only about 5,000 sheep of good breed in the country, but from them sprang the large flocks which are now found in the United States. The first cloth mill worthy of the name was erected in 1788 by several of the inhabitants of Hartford, Connecticut, and its annual production amounted to 5,000 yards. It is stated that the proprietors of this establishment presented Washington with a suit made of their cloth in 1791. Other works soon arose, and in 1810 there were five mills producing fine woolen tissues, and nineteen which manufactured coarser descriptions, their aggregate production being 200,000 yards, and a considerable quantity was also produced on hand looms. The war in 1812 gave a great impulse to the American woolen trade, but when peace was concluded British tissues were imported in enormous quantities and completely crushed the industries of the States. Congress then found it necessary to protect the American manufacturers, and imposed in 1816 an import duty of 25 per cent. *ad valorem* on woolen tissues, and in 1824 it applied a duty of 15 per cent. on raw wool, costing less than ten cents per pound, and of 20 per cent. on wool costing more than thirty cents per pound.—*Draper's Record*.

VALUABLE LIQUID GLUE.—Liquid glue possessing great resisting power, and particularly recommended for wood and iron, is prepared, according to Hesz, as follows: Clear gelatine, 100 parts; cabinet-makers' glue, 100 parts; alcohol, 25 parts; alum, 2 parts; the whole mixed with 200 parts of 20 per cent. acetic acid and heated on a water bath for six hours. An ordinary liquid glue, also well adapted for wood and iron, is made by boiling together for several hours 100 parts glue, 260 parts water and 16 parts of nitric acid.

THE WORLD'S VINTAGE.—According to a report made by the United States consul at Marseilles, France, on February 27, 1889, the production of wine in the principal wine-growing countries of the world, vintage of 1888, given in gallons, is as follows: Australia, 1,902,024; Austria, 92,459,500; Algeria, 72,072,788; Cape Colony, 4,490,890; France, 795,204,534; Greece, 46,493,820; Hungary, 184,919,000; Italy, 798,242,489; Portugal, 132,085,000; Roumania, 18,418,900; Russia, 92,459,500; Serbia, 52,834; Spain, 607,591,000; Switzerland, 29,058,700; Turkey and Cyprus, 68,684,200; United States, 32,000,000.

CREMATION.—There is a general feeling of repugnance against cremation among people of all classes in all countries. Sanitary considerations, on the other hand, are leading many intelligent and thoughtful persons to the conclusion that it is very desirable in crowded cities, especially in the disposal of the bodies of those who die from such diseases as diphtheria, scarletina, phthisis, etc. Sir Spencer Wells shows that the practice of cremation is on the increase. In Rome 119 bodies were cremated in 1886, 155 in 1887, and over 200 in 1888. At the Woking Crematorium in England over 70 bodies have been cremated since the British Parliament authorized this method of the disposal of the dead.

RHEUMATISM.

Among the diseases which must necessarily be quite prevalent until warm weather comes again, one of the most painful is acute rheumatism, from which almost every one suffers, more or less at some time. In the beginning, it is well to have it understood that the term rheumatism is often wrongly used to cover an immense range of pains which are in no way due to that disease; in fact, it is customary to apply it to almost every pain the cause of which cannot be made out. The purest type of the disease is acute articular rheumatism, or what passes under the name of rheumatic fever. No one needs to be told its symptoms; there is no mistaking it when it makes its appearance. It is sufficient to say that it is a disease which involves the entire system, in other words, it is constitutional; but its most

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand **Harwin & Co.**
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

pronounced manifestation is in the joints, which are inflamed and undergo characteristic changes. And besides the joint affections certain internal organs not infrequently share in the inflammation. As to the cause of rheumatism, physicians of the present scarcely know more than those of a century ago. Once it was attributed to exposure to cold, damp, or other atmospheric changes, but that such influences are alone capable of exciting rheumatism is now no longer believed. In order for that disease to be developed, there certainly must be present some morbid peculiarity of the system, some special tendency to it. When such peculiarity, such susceptibility to the disease, does exist in a person, then exposure to cold, and a variety of other conditions are doubtless capable of exciting it. In other words, there must be present a spark, or a flame cannot be lighted. Any impairment of the general health from defective nutrition seems to specially increase the liability to an attack of the disease. There are certain diseases during, or after, which the affection under consideration is exceptionally prone to occur. Prominent among those alluded to are dysentery, scarlet fever, erysipelas, scrofula, consumption, and cancer—a connection between them is recognized. Now, as to that peculiarity of the system which must always be present in order for rheumatism to be developed, no one knows just what it is. A number of theories have been advanced the most popular of which is, that it is an excess of lactic acid in the blood. The most of the physicians of to-day believe in that theory. As to why there should be an excess of that acid in the blood, again we are in a fog. Certainly it would seem that there must exist one of two unnatural conditions, either there is some peculiar derangement of the liver, or there is a lack of alkalies in the blood. Almost every one knows that patients suffering from rheumatism seldom die of that disease, and hence its importance is very often underrated and treatment is indifferently applied. It is true that the death rate from rheumatism is small, probably not more than three out of a hundred cases of the acute form die. But death often does occur as an indirect consequence of that complaint; for during an attack in many cases seeds are sown which sooner or later develop into the gravest of diseases. Hence, painful as it is, the suffering of the victim is not the feature of the disease most to be dreaded; it is the trouble which is so very likely to follow in its trail. Rheumatism is a disease which very readily yields to skilful medication. The best remedy which can be offered to the sufferer from rheumatism is Dr. J. C. Ayer's Sarsaparilla. It is so well combined as to hold within a small compass, and with a pleasant flavor, all the drugs which long experience have shown to be most effective in so changing the secretions of the body as to expel the noxious matters which produce the symptoms we call rheumatism, and stimulate the secretions of normal and health-giving fluids. Try it and you will be convinced that it will save you present pain and future risk.

BUSINESS NOTES.

FINE PRESERVES.

No better preserves, jams and jellies, than those put up by Gordon & Dilworth, New York, can be bought anywhere. They are absolutely the best fruits in market, cleanly prepared and preserved with sugar only. No chemicals of any kind are ever employed.

FOR SLEEPLESSNESS

USE HORSFORD'S ACID PHOSPHATE.

Dr. C. R. Dake, Belleville, Ill., says: "I have found it, and it alone, to be capable of producing a sweet and natural sleep in cases of insomnia from overwork of the brain, which so often occurs in active professional and business men."

CATARRH
HAY FEVER
CATARRHAL DEAFNESS

A NEW TREATMENT.
Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been discovered which permanently cures the most aggravated cases of these distressing diseases by a few simple applications made (two weeks apart) by the patient at home. A pamphlet explaining this new treatment is sent free by A. H. Dixon & Son, 337 and 339 West King Street, Toronto, Canada.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE
SCRIPT NAME
OF
HARTSHORN

ON LABEL,
AND GET
THE GENUINE

FACIAL BLEMISHES
The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superficial Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.
JOHN H. WOODBURY, Dermatologist, 125 West 42nd Street, NEW YORK CITY, N. Y.
P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.

JOHNSON LOCKE MER. CO.

Shipping & Commission Merchants,

SAN FRANCISCO, CAL.

Agency at
PORTLAND, ORE.

Agency at
LOS ANGELES, CAL.

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins, Walnuts, Almonds, Dried Grapes, Borax, Barley, Mustard Seed, Salmon, Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

THURSTON'S
IVORY PEARL TOOTH POWDER

WILL KEEP THE TEETH IN PERFECT CONDITION AND THE GUMS HEALTHY.

Price 25 & 50 Cents
PER BOTTLE

Sura Cura ROBINSON'S 
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
And remedy for diseases arising from an impure
state of the blood. An antidote for MALARIA.
Price 50 c. and \$1. Sent by mail on receipt of price.
Send for Circular.
R. W. ROBINSON & SON,
184 Greenwich Street,
NEW YORK.

Sura Cura

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT
of a LETTER from
a MEDICAL GEN-
TLEMAN at Mad-
ras, to his brother
at WORCESTER,
May, 1851.

"Tell
LEA & PERRINS'
that their sauce is
highly esteemed in
India, and is in my
opinion, the most
palatable, as well
as the most whole-
some sauce that is
made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

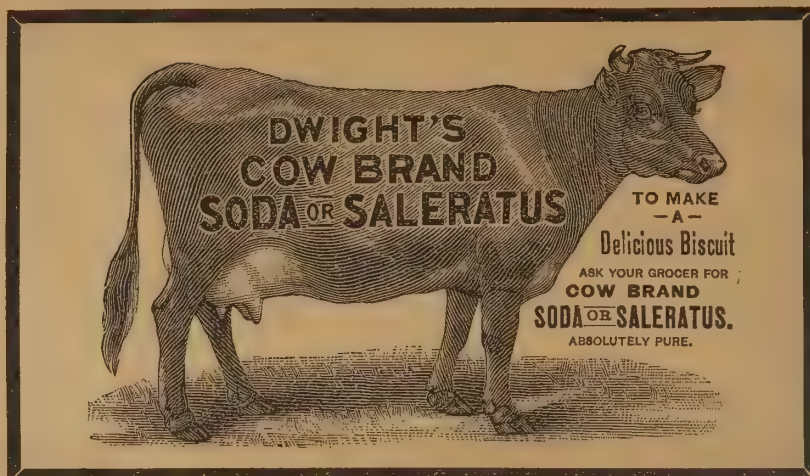
❖ PICTURES. ❖

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,
at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
47 West Twenty-Second St., New York.



TWELFTH SEASON.

MRS. McELRATH'S

Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams,
Pickles and Mince Meat.

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circu-
lars, with references and prices, sent on application. Address,

❖ Mrs. SARAH S. McELRATH,

393 Degraw Street, Brooklyn, N. Y.

❖ WHOOPING COUGH CURED ❖

Or Prevented by Page's Vaporizer and Cresolene.



We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for **Whooping Cough**, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it. Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION,** NEW YORK.

TRADE MARKS.

We have had a long experience in the matter of Trade Marks, and protection against Infringements and Imitations. Any further information may be obtained by addressing the

AMERICAN ANALYST,
19 PARK PLACE, NEW YORK.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

CEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

Good Agents

To obtain Subscriptions for

AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

SCOTT'S EMULSION

OF PURE COD LIVER OIL WITH

HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects. Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and receives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—unequalled by any single or combined remedy in existence. The rapidity with which delicate children fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the (Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.
By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,
By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

AMERICAN ANALYST CLUB RATES.

	Regular American Price.	Price Including Analyst.		Regular American Price.	Price Including Analyst.
American Rural Home.....	\$1 00	\$1 50	Harper's Weekly.....	\$4 00	\$4 00
American Agriculturist.....	1 50	1 60	Harper's Monthly.....	4 00	3 60
Art Amateur.....	3 50	4 00	Household.....	1 10	1 35
Arthur's Home Magazine.....	1 50	2 00	Housekeeper.....	1 00	1 25
Art Interchange.....	3 00	3 25	Ladies' Home Journal, Philadelphia.....	1 00	1 50
Babyhood.....	1 50	1 60	Ledger, N. Y.....	3 00	3 00
Ballou's Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Cassell's Family Magazine.....	1 50	1 75	National Tribune, Washington.....	1 00	1 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Day, Boston.....	3 00	2 50
Christian Union.....	3 00	3 10	Our Little Ones and Nursery.....	1 50	1 75
Cosmopolitan, N. Y.....	2 40	2 50	Outing, N. Y.....	3 00	3 00
Cottage Hearth.....	1 50	1 50	Peck's Sun.....	2 00	2 25
Country Gentleman.....	2 50	2 50	Peterson's Magazine.....	2 00	2 00
Current Literature.....	3 00	3 00	Popular Science Monthly.....	5 00	4 75
Demorest's Magazine.....	2 00	2 10	Puck.....	5 00	4 50
Family Story Paper.....	3 00	3 00	Rural New Yorker.....	2 00	2 30
Farm and Fireside.....	50	1 00	Saturday Night, Philadelphia.....	3 00	3 00
Fireside Companion.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Forum.....	5 00	5 00	Scientific American.....	3 00	3 25
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Scribner's Magazine.....	3 00	3 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Vick's Illustrated Monthly.....	1 25	1 60
Godey's Lady's Book.....	2 00	2 25	Wide Awake.....	2 40	2 60
Golden Days.....	3 00	3 00	Yankee Blade.....	3 00	1 50
Good Housekeeping.....	2 50	3 00	Young Ladies' Journal, English Edition.....	4 00	3 50
Harper's Bazar.....	4 00	4 00	Youth's Companion.....	1 85	2 25
Harper's Young People.....	2 00	2 25			

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be

particular and state if you want Formosa or Amoy, Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.
STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The **Sauterne** is superb—much better than most of the imported that costs five times as much. The same is true of the **Claret** and the **Blesing**. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by **E. McILHENNY,**
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing *pure sodium*—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-CARB. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of *sulphate of soda*, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88

North Moore Street, New York.

TO THE CONSUMER!

"PAVONIA BEER"

MANUFACTURED FROM THE

Best Grade of Imported Malt and Hops.

ENTIRELY FREE FROM THE PUNGENT TASTE
OF THE ORDINARY BEERS.

It commends itself to the Consumer as a pure, wholesome and delicate Beer; can be safely used by Invalids.

Specify Export Pavonia Beer, White Label, when ordering

OTIS S. NEALE,

HOWARD STREET,

BOSTON, MASS.

SEE NEW

CLUB RATES

WITH OTHER

JOURNALS,

ON PAGE 586.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

NEW YORK'S GREAT CHEMIST.

This is to certify that I have analyzed Dr. Price's Cream Baking Powder. I find it composed of pure materials, compounded on correct scientific principles. The ingredients are accurately and scientifically proportioned. Hence, bread or biscuits prepared with it are better suited for digestion.

R. OGDEN DOREMUS, M.D., LL. D.,

Prof. Chemistry and Toxicology in the New York Bellevue Hospital Medical College. Prof. Chemistry and Physics in the College of the City of New York.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,
And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

See Clubbing Rates of AMERICAN ANALYST with other Journals, and study their advantages.

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

"BILLET"

are

Carefully Selected
French Gardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time to subscribe.

GLENN'S SULPHUR SOAP.

Physicians know the great value of the local use of sulphur in the Treatment of Diseases of the Skin.

Glenn's Sulphur Soap is the Original and Best combination of its kind, and the one now generally in use. For sale by All Druggists.

Beware of Counterfeits.

Wholesale Depot,

C. N. CRITTENTON,
115 FULTON STREET,
NEW YORK.

Samples of above Soaps SENT FREE on application.

The Standard of Excellence.

KINGSFORD'S

OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

AGRICULTURAL
EXPERIMENT STATION.
UNIVERSITY OF ILLINOIS.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 50.

NEW YORK, THURSDAY, DECEMBER 12, 1889.

WHOLE No. 146

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,
H. LASSING, M. D., } Editors.
T. P. McELRATH, }
No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

A Human Magnet.....	591
Ancient Science.....	592
Bracelets.....	593
California Industries—Continued.....	592
Correspondence.....	592
International Agricultural Exhibition.	
Costly Drugs.....	592
Culture and Muscle.....	591
Dressed Beef.—No. 3.....	590
Domestic Dietetics.....	593
Editorials.....	589
A National Standard of Food; Educational Statistics; New York and London; A Human Magnet.	
Electrical Piano Playing.....	595
Faith Follies.....	594

A NATIONAL STANDARD OF FOOD.

In Cleveland, Ohio, on November 27th, the "National Dairy and Food Commissioners' Association of the United States" was organized by delegates appointed by the Governors of the several States. Hon. Hiram Smith, of Wisconsin, was elected temporary chairman; F. A. Derthick, food and dairy commissioner of the State of Ohio, secretary and treasurer. The objects of the association are "to establish a uniform standard for the purity of human food and drink, and to encourage the honest manufacturer and protect the consumer." A constitution and by-laws were adopted, which will be placed before the readers of the AMERICAN ANALYST when an authenticated copy is received. The organization of this association is an important step in the direction of what would presumably be a universally demanded reform. The difficulty, however, is to induce the consumer to co-operate in being protected. So long as people insist upon receiving a dollar's-worth for half a dollar, greedy tradesmen and unscrupulous manufacturers will fill the market with goods prepared to meet

the public demand. The average housekeeper seems to be more keenly alert to compass so-called "bargains" than to secure pure food for the family. A more intelligent sentiment on that subject is, however, becoming more apparent each year, and this "National Commission" started in Cleveland, is one of several concerted efforts in the direction of food reform which have been brought into activity within the past five years through the teachings and monitions of the AMERICAN ANALYST. We welcome the new organization heartily, and shall watch its efforts in behalf of a "uniform standard," with interest. The Chicago Herald of December 1, says of the Commission—though our contemporary's statement in relation to the prevalence of adulteration is considerably exaggerated—

"This is the first step toward what many people in this country have been praying for and writing and lecturing about for many years. While it is to be hoped that the association has not 'bit off more'n it can chew,' it certainly has a stupendous contract on its hands. There is not one article of food eaten by man from the time he leaves the cradle until he enters the grave that is not adulterated in some way or sold in a condition that renders it unfit for food. The list of food adulterants would fill this column—adulterants that are in common and every-day use. However cheap a food may be, there is always something cheaper with which to adulterate it. Among the most important of the things that the association can learn from our transatlantic brethren is to make use of the skill of chemists in detecting impurities in foods. The countries of Europe, taken on an average, spend dollars on food investigations where this country spends cents. In this comparatively thinly settled country it should not be necessary to spend a proportionate amount; but as a matter of fact, the proportion of adulterated to the pure food sold here is higher than in any European country. The adulterators and many of their foolish victims say in extenuation of this, and against legal interference, that this is a free country. So it is; and it is about time that people were permitted to indulge the God-given liberty of eating pure food—if their systems can stand such a surprise."

EDUCATIONAL STATISTICS.

From present indications the eleventh census will embody the most comprehensive statistical survey of the country's social status that has ever been attempted. We have had several opportunities to call attention to the extensive preparations making, under the able superintendence of the Hon. Robert P. Porter, for securing the requisite data for this great work. We are in receipt of a communication from that official under date of December 1, relating to the statistics of education, which will interest, or should interest, every reader of the AMERICAN ANALYST. The Superintendent says: "This office desires to secure the best results possible regarding the schools of the country with a few salient inquiries. James H. Blodgett, A. M., of Rockford, Ill., a gentleman of long experience in educational work and in public affairs, has been appointed a special agent for the collection of statistics of education for the United States. Public schools are so related to systems of public record that their statistics are obtainable

through established methods. Incorporated private schools have a place in public records. Parochial schools generally render stated reports to some controlling body. Unincorporated private schools form a considerable element of usefulness hitherto unmeasured. It is desirable to gather reports of the number of teachers and pupils in such schools, without troubling them for the financial statements that schools supported by public funds owe to the taxpayers. The enumerators of population will report each person who has attended school within the year, and whether at a public school or at a private school; and, for all persons ten years of age and over, those who can read and write. This will be more than has been done heretofore. Other educational statistics must be reached by different methods, in which every one interested may render some aid. Any lists of private schools, no matter how brief, or names of single schools, no matter how humble, 'open in any part of the present school year,' with the address of the principal teacher of each, will be of assistance to this office."

NEW YORK AND LONDON.

The population of the city of New York according to the census of 1880 was 1,206,577, and next year's census will show it to be upwards of 1,500,000. The population of London is estimated in round numbers at 4,220,000. Some interesting points of comparison between the health of the two communities are summarized in the *Medical & Surgical Journal* of Boston. The deaths in London last year numbered 78,848, or 18.5 per 1,000, in New York, 40,175, or 26.33; and in Paris, 22.6 per 1,000. The birth returns for New York are incomplete; but the birth-rate in London was 30.7 per 1,000; in Paris, 27.0. The male births in Paris were 30,723; the female births, 29,913. In London the numbers were, males, 66,629; females, 64,451; but in the total population of London there is a majority of 250 females. Premature births in New York numbered 1,155; in London, 2,099. To be equal, the figures referring to New York should only be a third. New York compares unfavorably with London in the matter of suicides. There were 247 in New York, and 400 in London. Between 800 and 900 persons take their own lives in Paris every year. In New York 1,138 were killed by accidents; and in London 2,516. There were only 1,892 deaths from bronchitis in New York, while in London there were 10,085. But while some hundreds die every year in London as the result of idleness and obesity, 61 deaths were recorded last year from starvation. A decreased death-rate is invariably accompanied by a lower birth-rate. The deaths in London last year were the lowest on record; the births, the lowest since 1841. In the western districts where the wealthy reside, and where the degree of comfort is high, the deaths fell to 16.4 and the births to 25.5; but in the impoverished and overcrowded east, where the poor never get a breath of fresh air, and are huddled together in unhealthy alleys, the deaths rose to 27.2, and the births to 36.5. The

D. & P. ROCK CANDY.

Dissolved in Rye Whiskey, (5 lbs. Rock Candy in 1 gallon Whiskey), cures Coughs, Colds and Consumption.

Read "A Lecture in a Horse Car," published in the New York Sun, containing an account of the celebrated case of the Hon. Ellis B. Schnable, who, while in the last stages of consumption, was entirely cured by the liberal use of Rock Candy and Rye Whiskey.

D. & P. Rock Candy in 5-lb. boxes is sold by leading confectioners, druggists, grocers and wine merchants. Not genuine unless the letters D. & P. are on the label. Full directions in every box. Send for recipe.

DRYDEN & PALMER,
19 HUDSON STREET, NEW YORK.

people least able to support children are the most prolific; and the higher the degree of social comfort and well-being, the less the increase of population.

A HUMAN MAGNET.

We learn from Baltimore, under date of December 4th, that the scientists connected with the Johns Hopkins University are engaged in investigating the peculiar powers possessed by the fingers of Louis Hamburger, the twenty-one-year-old son of Phillip Hamburger, a well-known merchant of that city. When the hands of the young man are thoroughly dried and touched to any polished object, they hold it like a magnet. He can thus raise up a quantity of pins, which will dangle from them, his index fingers possessing the quality more than any others. He also raises up a glass tube freighted with a six-pound weight. Prof. William Simon has him in charge and proposes to give some scientific experiments before the Johns Hopkins Scientific Association. A detailed account of this peculiar freak of nature will be found in another column of this issue of the AMERICAN ANALYST.

DRESSED BEEF.

No. 3.

THE BUSINESS DESCRIBED FROM A CHICAGO STANDPOINT

Inspection in the Union Stock Yards.

CHICAGO, November 19, 1889.

Realizing that the outside world might regard our account of it as liable to be influenced by our proximity to the industries at the Union Stock Yards, we give the following from the St. Paul, Minn., *Dispatch*, a newspaper that sent down a special reporter to spy into and find out regarding the system of inspection, and write it up just as he found it. It is well known the Minnesota butchers are fighting Chicago beef, so this article must be regarded in the light of coming from a party not biased in favor of Chicago industries, and is, therefore, all the more satisfactory. The decision of Judge Blodgett of the United States Circuit Court for the Illinois district and of Judge Nelson in the Minnesota district, declaring unconstitutional the law enacted by the State legislature of Minnesota prohibiting the importation of dressed beef, have created the liveliest interest in the recently annexed suburb of Lake, where several thousand people are directly or indirectly identified with the industry. Despite, moreover, the fact, that the decisions but follow similar action by the district courts of several other States, these pronouncements of federal authority are likely to be important and far reaching in their effects. Judge Blodgett is a careful, painstaking

jurist, with the law on about every question at his finger ends, and his opinions are regarded by the legal profession as only second to the deliverances of the Supreme Court. As an exponent of constitutional law, especially, he is probably without a peer, and when he says, as he has said, that the enactment of such laws as those of Minnesota is a violation of the Constitution of the United States, it may be taken for granted that he is simply laying down a principle that will be reaffirmed, and that with emphasis, should the occasion ever arise, by the highest judicial tribunal of the United States. It has been the stock-in-trade argument of many of those who have been prominent in the anti-dressed beef crusades of the various States, that they were actuated solely by the desire for a protection of the good health of the people. At one time it has been declared that the system of inspection at the Chicago Stock Yards was notoriously lax and inefficient. At another and in other places it has been just as vehemently insisted that there was no inspection at all. It is more charitable to assume that the people who have been instrumental in spreading these stories broadcast knew nothing of what they professed to talk about than to assume that they wilfully perverted and misrepresented known facts in order to serve their own purposes. Probably both suggestions, however, would not be wide of the mark. It has been a campaign of demagoguery and ignorance on the part of some in this anti-beef crusade, and of deliberate and wilful lying on the part of others. Those concerned can take their choice of adjectives. Despite all that has been said, however, and may be said hereafter, it may be laid down as a fact that if the legislatures and health authorities of the various States, counties and cities would devote as much proportionate attention to the health of their several jurisdictions as is exercised at the Union Stock Yards to the end that traffic in diseased meat shall be an impossibility, the mortality rate of the country would decrease to an astonishing degree and deaths from longevity, instead of being the exception, would come to be the rule. No other conclusion, at least, could be formed by any disinterested observer, who, as did the representative of the *Dispatch* yesterday, would take the time and trouble to spend seven hours within the Stock Yards and gain from personal observation a practical insight into the methods of inspection in vogue. And the man who having gained such information, would still insist upon the necessity of legislation for the interstate prohibition of the traffic in dressed beef would partly lay himself open to the charge of being certainly a fool, and perhaps a knave. The method of inspection now employed at the yards in question may be classed under three heads—State, city, and general. The State inspection is controlled by the board of stock commissioners, a body appointed by the Governor, and the duty and authority of which is defined by several acts of the Legislature. This board is represented at the Stock Yards by two agents, John McDonald and William Mitchell, both men of years and experience. Either of them can detect any sickness in an animal, however slight, almost at a glance.

The routine of the State inspectors is simple, but, in the opinion of the writer, too rough. They are expected to superintend the unloading of every consignment of cattle arriving at the yards. It is optional with them to kill instant or to quarantine any emaciated or sick animal or animals that may be found in any such consignment. Their word is law and like the laws of the Medes and Persians, unalterable. There is no appeal, and a decision once given is generally accepted with good grace by all concerned. This part of their duties is performed in the early morning when the trains come in. All the rest of the day they may be found on horseback, riding from pen to pen and closely scrutinizing the animals confined. Whenever one is found that appears to be ailing, its immediate removal to the sick pen or hospital is effected, the owner or commission merchant, as the case may be, being provided with a certificate to that effect. Nor is this all. They are required to person-

ally inspect for the third time every animal prior to its being taken to the slaughter-house, and the rules of the company operating the yards and governing their employees are so strict on this point that for a man to open his pen and allow even a single animal to go to the slaughter-house until satisfied that the proper inspection is made, is punished by the forfeiture of his position. In this connection the following extract of a law by which the inspectors are governed and under which they are clothed with police powers is of interest.

* * * * * Any person who, knowing that any contagious or infectious disease exists among his domestic animals, shall conceal such fact, or knowing of the existence of such disease, shall sell the animal or animals so diseased, or any exposed animal, or, knowing the same, shall remove such diseased or infected animals from his premises to the premises of another, or knowing of the existence of such disease or exposure, shall drive or lead or ship the same by any car or steamboat to any other place in or out of this State, and any person or persons who shall bring any such diseased, or shall knowingly bring any such exposed animal or animals into this State from another State, and any person or persons who shall knowingly buy, receive, sell, convey or engage in the traffic of such diseased or exposed stock, and any person who shall violate any quarantine regulations established under the provisions of this act, shall for each, either, any and all acts above mentioned in this section be guilty of a misdemeanor, and on conviction thereof, or of any one of said acts shall be fined in any sum not less than \$25 nor more than \$200 and imprisoned in the county jail until the fine and costs are paid.

Inspection on the hoof is also carried on under the supervision of the city health department. The three inspectors charged with this duty—and who are at present Messrs. Lamb, Root and O'Hern—are required to be practical butchers and to have a general knowledge of the diseases of animals. On both points all appointees are compelled to undergo a searching examination prior to receiving their certificates. Their duties are similar to those of the State inspectors, with whom they work harmoniously, although entirely independent. They look over the animals as they come from the cars, approve or condemn in their discretion, and kill when necessity demands. Their monthly report by days they are required to regularly file with Commissioner Wickersham, of the City Health Department. The city officers who are enrolled on the books of the Police Department and have full power to make arrests when obstructed in their duty, also make their ceaseless rounds of the pens.

So much for the inspection on the hoof. At the slaughter-house the system is even more rigorous. Every animal is closely examined by city agents as it goes through the doors. If there is anything about it that has escaped the vigilance of the other inspectors it is turned back. In the slaughtering beds the operations are superintended by one or two agents. After the animal has been killed and the hide stripped they closely examine the carcass. If any of it appears to be diseased or even bruised, it is condemned and ordered to the rendering tank. Itemized reports are duly made of the result of their acts. As for example:

Six quarters of beef, bruised. Tank.
Seven quarters beef, bruised. Tank.

Inspected on the hoof and re-inspected after killing, it might be imagined that the meat would be allowed to go to its destination without further parley. Not a bit of it. The system goes still further. On every platform where a refrigerator car is loaded, a man with a metal badge on his breast will be found standing. He is still another of the city agents whose duty it is to examine critically every carcass to be loaded for shipment, and to permit none to go into the car until by a wave of his hand or a nod of the head he indicates that it has passed the final ordeal. When the car has been filled, he locks and seals it with his own hands, and then the shipper is provided with a certificate setting

forth that the contents of the car, say No. 10, is so much dressed beef, sheep, lambs, calves or hogs, that it has been loaded under the supervision of the inspector, whose signature is attached; that it is the product of healthy animals, duly inspected alive immediately before slaughter, and also during slaughter, and that the animals in question were found to be externally and internally sound, healthy and fit for human food purposes. Then, and not till then, is the shipment allowed to go its way. A duplicate of the certificate is kept in the stub of the inspector's book, and every month he is compelled to swear that the record is correct. The general rules of the health department for the inspection of live stock and meat for the refrigerated carcass trade are very positive and specific, including the following: If there is any evidence of disease, the carcass will be rejected, and the inspector is ordered to personally see that said carcass is thrown into the rendering tanks. The inspector will be held responsible that no carcass is placed in the refrigerators except those they have inspected as above ordered, and when cars are loaded from these refrigerators an inspector will seal the closed doors of the car with his seal, and deliver to the shipper of said cars a certificate of inspection for each car which shall state the contents, the number and initials of such car, and be signed with his own hand, in ink, and he shall keep a record of such certificate on a corresponding stub. The general inspection referred to comprises that given by the stock yards employees, numbering several hundred, and who are under instructions to immediately report to the proper officers any sudden sickness that they may observe in any of the animals. Sometimes it happens that a steer or a cow is taken sick soon after the inspector has passed its pen. In such case it is the duty of the stock yard employee to drop instantly any work upon which he may be engaged, mount his horse and find the inspector, who issues the necessary order for its removal. In this way there is an extra and independent check on the inspection, and the possibility of a sick animal remaining in a healthy pen for even a single hour is reduced to a minimum. What becomes of the animals and beef condemned? may be asked. Every one of them, every pound of it, goes forthwith to the rendering house. Here a record is kept of all receipts, and this is periodically compared and footed with the reports of the inspectors. Should any discrepancy appear, explanations will be in order from the inspector. So far, however, no case of the kind has arisen.

Consequently, then, the extent of the supervision by the system now employed may be summed up as follows:

1. An inspection of the animals by the State and city authorities as they are unloaded in the yards.
2. Continuous inspection of the cattle in the pens by the State and city authorities, with the co-operation and aid of the stock yard employees.
3. Inspection of cattle in the pen by the State authorities when about to be taken to slaughter.
4. Inspection of the cattle upon arriving at the slaughter-house by the city authorities.
5. Inspection of the meat immediately after slaughtering by the city authorities.
6. Inspection of the meat while being loaded into cars by the city authorities.

It will be granted by every impartial and honest individual that the system of inspection thus roughly outlined is so rigid and complete as to fulfil every requirement. There is absolutely no loophole through which a single pound of diseased meat can get through the stock yard gate, and this fact once known and understood by the people of the States in which opponents of the industry have been the most active, the latter will be compelled to find new grounds for their opposition. It remains to be added that both the State and city inspectors have the hearty co-operation of the packers and commission men, both classes realizing that it is to their own interest to have nothing but the best product go out over their names, and that to countenance for a moment any traffic in diseased animals would simply result in practical ruin to their interests. The Humane Society also takes a general interest in the work and through its agent for a decade the veteran, William Mitchell, sees to it that while in the yards the cattle are well cared for, fed and watered and consequently kept in prime condition.

A HUMAN MAGNET.

A PHENOMENON FOR THE SCIENTISTS TO PONDER OVER.

A Baltimore correspondent writes from that city, December 4: Louis, the sixteen-year-old son of Philip Hamburger, is possessed of a mysterious power which is puzzling scientific men. This power enables him to make objects of considerable weight adhere to his finger tips, contact only being necessary. The young man, who is quite small, has been studying chemistry some time at the Maryland College of Pharmacy, and has shown his parents and friends some astonishing feats and bits of magic. By merely pressing his fully distended fingers against a heavy cane, he holds it suspended in the air for a long time. He is also able, by placing the balls of three fingers against the sides of a glass tube, to raise the weight of five pounds attached thereto. He says he has always remarked a peculiar feeling when touching small objects which are wet or greasy, and in order to get the best results in his experiments he must have both the hands and the objects dry and very clean. For this purpose he always washed his fingers in alcohol and ether and wipes them and the objects dry. In the presence of friends he gave an exhibition of his powers. The first experiment was to place a number of pins around the palm of his hands and on the tips of his fingers. On holding the palms vertically the pins are found to drop only after a long time. He next showed his ability to pick up from the table by pressing his dry finger tips against it any highly polished, smooth body, such as a pencil or a pen. Much more striking, however, was the manner in which the pen held perpendicularly stuck to the ends of his fingers. Both hands have the same remarkable power, though the right one does the better work. The tips of the fingers, which are more than unusually fleshy, are capable of the greatest feats. He touched his fingers against a glass tube three-quarters of an inch in diameter, and they stuck with such force that, as he pulled them away from it one after another, there was a click. The end of the tube thus raised was freighted with a plaster of paris block, and on this were gradually piled leaden weights until five and a half pounds were reached. This he was able to raise with the open palms. The young man loses control of his secret force when the objects become damp by perspiration or otherwise, and can only show its action on very smooth bodies. Prof. William Simon of the Maryland College of Pharmacy has developed whatever strength and remarkable powers the young man displays from the very smallest beginnings. He has hopes of making him perform yet more wonderful feats. At present he is engaged in experimenting with him in a scientific manner in order to present the case to the public in a technical journal. He has called the attention of a number of medical specialists in this city to the case, and all are at a loss to give an adequate explanation. On the 11th inst., young Hamburger, accompanied by his preceptor, will give an exhibition of his remarkable powers before the Scientific Association of the Johns Hopkins University.

CULTURE AND MUSCLE.

BOSTON PROFESSORS DISCUSSING THE ADVANTAGES OF PHYSICAL EXERCISE.

The subject of physical training in schools and colleges is receiving unusual attention at present. A conference on this subject was held in Boston, November 29th and 30th, and was participated in by President Eliot, of Harvard College; President Walker, of the Institute of Technology; Dr. Edward Hitchcock, Secretary Dickinson, of the Board of Education; the Earl of Meath, President Warren, of the Boston University; President Helen Shaefer, of Wellesley College, and others. Dr. D. A. Sargent, of Harvard College, read a

paper on the system of physical training at the Hemenway Gymnasium. He said in part: "Every student is entitled to an examination, and the most of them avail themselves of it. The student is then required to go through certain exercises, and measurements of the different portions of his body are taken. These are kept for comparisons, and to show what advance he is making. The gymnasium is now so managed that a student is not required to compete with men stronger than himself, but can exercise alone. Gentle running exercise is recommended, as it promotes circulation and starts perspiration. This renders bathing necessary, which is very important to the health of the student. Sponge, or shower baths are regarded as the best. Heavy gymnastics are no part of the college training, but are carried on by the students belonging to athletic clubs. It is believed that it is better to have 100 men strong, healthy, and athletic, than one man, or a team, who can break records. There are in Harvard College 245 students to-day, who can surpass the tests applied to the strongest men of 1880. Although attendance on the gymnasium is entirely voluntary, there are 1,200 students who make use of its advantages." Dr. Sargent expressed pleasure at witnessing so much interest taken in physical culture, but thought there was danger of its being carried to an extreme. This was to be seen in books of instruction issued by manufacturers of athletic apparatus for advertising purposes and by the advocacy of exercises requiring no apparatus. He insisted upon the necessity of a student working with the object of developing his muscles. Although he may be engaged in something else that will bring the same muscles into action, it will not have the same good results. There must also be resistance, and there must be vigor and rapidity in the movements. As many muscles as possible must be brought into action. There must be no restraints when taking exercises, as the wearing of tight clothing. Rest must follow action and there must be a change of activity. The speaker condemned all gymnastics that required constant tension, such as attitudinizing, and the compelling of children to remain in one position. He believed that it would be far better for children if they were turned loose in a carpeted room without chairs, during their periods of instruction, than to keep them in cramped positions in the school room. Another essential is the development of heat in the body. In order to realize the best results, muscular efforts should be followed by a bath and vigorous rubbing. In every kind of physical exercises, the qualities at first required are the qualities at length developed. A man can be made courageous, active, vigorous and self-reliant by appropriate physical training. The men who kick foot-balls are the very men who have to lay off after the season for rest and recreation. Those who have been the most successful in heavy gymnastics are the very ones who are subject to nervous complaints.

WATERPROOF WHITEWASH.—A waterproof whitewash is in use in Germany. The powder from three parts silicious rock (quartz), three parts broken marble and sandstone, two parts of burned porcelain clay and two parts freshly slaked lime, still warm, are mixed together. This forms a silicate if often wetted, and becomes after a while almost like stone. It is applied quite quickly to a wall or other surface and allowed to dry one day. The next day it is covered frequently with water, which makes it waterproof.

SICK HEADACHE.—Professor Stewart, after telling us that the seat of nausea is not in the stomach, but in the brain, informs us that relief from this distressing sensation may be obtained by cooling the base of the brain. He has tested this often and thoroughly in the case of a sick headache, bilious colic, cholera morbus, and other ills in which the nausea is a distressing symptom, without a single failure, and once relieved the nausea resulting from a cancer of the stomach by the application of ice to the back of the neck and occipital bone. The ice is to be broken and the bits placed between the folds of a towel. Relief may be obtained by holding the head over a sink or tub and pouring a small stream of water on the back of the neck. This is worth remembering as a relief for sick headache, to which so many women are subject.

CORRESPONDENCE.

INTERNATIONAL AGRICULTURAL EXHIBITION.

AUSTRIAN CONSULATE, NEW YORK,
November 9, 1889.

Editors AMERICAN ANALYST: I beg to announce that the Imperial Royal Agricultural Society of Vienna will hold there, in the year 1890, a General Forestal and Agricultural Exhibition. It will take place in the "Rotunda" and the adjoining park grounds of the "Prater," and will last from the 15th of May to the middle of October, perhaps to the 1st of November. The aim is to exhibit a complete picture of the present standing of all branches relating to agricultural and forestal efficiency. The management of the undertaking is in the hands of a general committee [especially selected for the purpose. The programme issued by this committee contains the following divisions, intended for international participation: Machines and implements for agriculture and forestry and their industries; for horticulture, orcharding, viticulture, and hop culture; for the breeding of poultry and bees, and the keeping of silk-worms; for dogs, and the art of hunting and fishing. Auxiliary means employed for farming, viz.: artificial manure, food produced for the market, veterinary products, etc. Models, plans, drawings and statistical dates (a) of agricultural and forestal works of melioration and engineering; (b) of the system of agricultural and forestal instruction and experimenting, literature included; (c) of the use and the sale of waste matter; (d) of the support of large cities with provisions; and, finally, (e) the division "poultry and dogs." To these divisions all foreign countries can contribute. The essential success of the exhibition through its international divisions depends to a great extent upon a numerous participation from foreign countries. I beg leave to ask you to call by means of an item in your esteemed journal the attention of those in the United States to this exhibition, in whose interest it would be to participate.

I have the honor to be, sir,

Yours most respectfully,

B. A. LITNHEL.

Consul of Austria-Hungary.

CALIFORNIA INDUSTRIES.

THE REMARKABLE PRODUCING QUALITIES OF THE
GOLDEN STATE.

(Continued.)

Santa Clara County lies south-east of San Francisco, and is separated from the Pacific Ocean by Santa Cruz County; it is twenty miles from the coast and fifty miles from San Francisco, being connected by three railroads. It has an area of one million acres. The county seat is at San Jose, a city of 25,000 inhabitants, which is only seven miles from tide water. There has been some talk of dredging Alviso slough, forming a land-locked canal which would make San Jose a sea-bound city. This county has a genial, equable and healthful climate, with a mean temperature of 55 deg. Fahr. It has a plentiful supply of water and no malaria. The main product of this county is deciduous fruits. Prunes, apricots, peaches, pears, apples, cherries, olives and almonds are the varieties mostly cultivated. There are 800,000 prune trees in this county, and several thousand acres of young fruit orchards set out. All kinds of small fruits, cereals and vegetables attain that perfection which only such a climate can give. In the mountainous parts stock raising is profitably engaged in. Dairying is also very extensively followed, and Santa Clara County cheese commands the highest price in San Francisco. Last year 28,000 tons of fruit and 125,000 gallons of wine and brandy were shipped from Santa Clara County. Manufactories are

numerous. There is a paper mill, agricultural implement works, foundries, tanneries, woolen factory, a silk factory, numerous fruit canneries, wineries, machine shops, box factory, glove factory, cigar factory, carriage shops, etc. The celebrated Palo Alto stock farm of Senator Stanford is in this county, and the Lick Observatory, on the summit of Mount Hamilton, is eighteen miles east of San Jose. During the past year there were sent from this county 8,974,430 pounds of dried fruits, 28,443,140 pounds of green fruits, and 18,675,470 pounds of canned goods. Santa Clara County has the richest quicksilver mine in America, the New Almadew. There are also large deposits of fine building sandstone. During the year 1888 there were shipped from San Jose 97 carloads of deciduous fruits, 6,635,360 pounds of fresh fruits. During 1888, 2,300,000 gallons of wine were produced in Santa Clara County. This county being contiguous to the vast pine and redwood forests of Santa Cruz Mountains, much capital is invested in lumber and milling. The largest brewery in California, the Fredericksburg, is situated here.

COSTLY DRUGS.

SOME EXPENSIVE MEDICINES OF THE MODERN
PHARMACOPŒIA.

Some medicines are very expensive. At a recent exhibition of the American Public Health Association in Brooklyn, one manufacturing chemist, E. Merck, exhibited a case of bottles about enough to fill an ordinary barrel, the total value of which was over \$30,000. The most costly drug in the case was labelled "Hom-atropine hydrobromate, cryst." It was all in one bottle, containing six pounds, and was valued at \$12,600, or at the rate of \$2,100 a pound. This drug is an alkaloid, artificially prepared from atropine. Its effects are similar to those of atropine, but not so lasting. It is a preparation of belladonna and is chiefly used in treatment of the eyes, and always in minute quantities. It expands the pupil of the eye. This substance is a striking illustration of the application of chemistry to well-known medicines. The physician does not deal so much with substances in their crude form as with the quintessences or active principles. By this means all superfluous matter is removed and only that part which is needed to be used in the healing art is given to the patient. Thus, not only have the roots, herbs, flowers, seeds, barks, juices, ores, and earths of ancient medicine been forced to give up their essential and active parts to the retort or crucible of the chemist and to reappear freed from dross or inert matter, reduced in quantity, but vastly magnified in intensity of action, but entirely new combinations of elements have been devised by chemical science and formed by chemical art; and wholly new and previously unthought of modes of action in the human organism have been achieved by some of these new formations. As the healing art has become specialized, and no one physician claims to be able to treat all ailments, so the use of special drugs for special treatment has become necessary, so that it is difficult to find even a druggist who is familiar with every one of the drugs now in the market. The United States Pharmacopœia is a huge book, with the contents of which but few are thoroughly familiar. Yet to get a list of drugs in actual use it will be necessary to study also the German Pharmacopœia and the British Pharmacopœia. In the exhibition referred to, one house showed 150 articles only out of 6,000 produced in the laboratories. Among the expensive drugs is aconitine alkaloid, an amorphous powder from aconitum napellus, produced from monkshood or wolfsbane. It is used in febrile diseases and neuralgia. A bottle of this containing about three pounds is valued at \$489.50. A bottle of anemonin containing 3¼ ounces, about the size of a pony of beer, is valued at \$191.45. There are thirteen different preparations of caffeine in small bottles at from \$16 to \$28 a bottle. This medicine has lately been applied successfully in Bright's disease. A small bottle of

chelidonine alkaloid, containing three ounces, made from tetterwort, used in skin diseases and scrofula and dropsy, is valued at \$88. Cocaine, which has the power when applied to any part of the body to render that part insensible to pain or touch during a short time, is rather an expensive drug. A bottle containing about four pounds was valued at \$420. A bottle of cantharidin crystals, the old-time blister in a new form, was valued at \$143. Codeine phosphate is a preparation of morphine used to produce sleep. A fifteen-ounce bottle of it was valued at \$135. A five-ounce bottle of cotoin, called "true cotoin," costs about \$70 an ounce. Digitalin Germaine, a powder used to decrease the action of the heart, costs about \$70 a pound. Elaterin crystals prepared from the South American Indian arrow, a poison used as a medicine in lockjaw and hydrophobia, costs \$45 an ounce. An ounce of Hyoscine hydrobromate crystals costs \$1,166.66, and 9½ ounces of hyoscyamine alkaloid costs \$1,406. These are preparations of henbane, and are considered excellent hypnotics. They are similar in general effect to atropine, but not followed by such dangerous symptoms. Among the other costly drugs in this collection were angaricin, 4½ ounces, \$43.75; colocynthin, 5½ ounces, \$114.75; conine hydrochlorate, 4½ ounces, \$98.43; cyclamin, 3¼ ounces, \$54.04; digitoxin, 1½ ounces, \$87.40; gentisin, 1½ ounces, \$91.15; heliotropin, 6 ounces, \$61.25; hydrastine hydrochlorate, 6½ ounces, \$94.80; papaverine alkaloid, a vegetable pepsin or digestive juice, found in the melon tree in tropical America, about \$120 a pound; papayolin, used as a solvent for the diphtheritic membrane, 13 ounces, \$189.58. There are various preparations from the Calabar bean that are very costly. They are used in diseases of the eye, and lockjaw. One preparation is called physostigmine alkaloid, and 4 ounces of it cost \$437.50. Physostigmine hydrochlorate crystals in a bottle about the size of a Coney Island glass of beer, containing 5¼ ounces, cost \$503.14. A small bottle of physostigmine salicylate crystals, containing three ounces, cost \$1,810.05. There is a preparation from the leaves of *taborandi pilocarpus pennatifolius* called pilocarpine nitrate crystal, used in consumption. A bottle of this containing 1 pound 6 ounces is valued at \$673.75. A preparation from quassia or bitter wood (*Picrena excelsus*) is used for dyspepsia and diarrhoea and also for worms. A small bottle of this containing ten ounces is valued at \$218.75.

ANCIENT SCIENCE.

THE SCIENTIFIC KNOWLEDGE OF THE ANCIENT GREEKS
AND ROMANS.

That we owe a great deal of our mathematical knowledge as the results reached by the ancients, is a familiar fact. It may not be so generally known that they applied their knowledge of mathematics to accomplishing practical results in the different departments of experimental science, and that many scientific appliances which are commonly supposed to be the inventions of modern genius were wholly or partly anticipated by them. In the department of mechanics they may have learned a great deal from the nation that taught them so much in other directions, the Egyptians, who must have acquired a great deal of knowledge in that line. The first Greek to whom independent mechanical inventions are attributed is Archytas of Tarentum, who was also distinguished as a general and a philosopher. He lived about 400 B. C., and was therefore a contemporary of Plato. Many of his inventions were merely mechanical toys or curiosities. Among these was a flying wooden dove, which excited great wonder and admiration. But he applied his talents to more serious and valuable ends, if those authorities are to be trusted who credit him with the invention of the pulley and screw. The first Greek to make mechanical principles the object of thorough scientific investigation was Aristotle. We are told that he knew the principle of the

parallelogram of forces, for the special case of right-angled components, and the law of virtual velocities. His knowledge of physics was, however, more theoretical than practical. Easily first among ancient Greek scientists is Archimedes, of Syracuse in Sicily, who was born about 287 B. C. He possessed inventive genius in a degree never excelled, except, perhaps, by Newton. The story is a familiar one that the discovery of the admixture of silver in a crown which Hiero had ordered to be made of pure gold, was suggested to him by the overflowing of the water when he stepped into a bath, and that he was so pleased that, forgetting to put on his clothes, he ran through the streets, shouting, "Eureka!" ("I have found it!") This complete abstraction from outward things reminds one of the stories of Newton sitting a great part of the day half-dressed on his bed, while composing the *Principia*. Archimedes was the pioneer in the study of statics, and his theory of the lever was the basis of that department of mechanics until the time of Newton, while no important addition to the principles of the equilibrium of fluids and floating bodies, as laid down by him, was made until the publication of Stevin's researches in 1608. His greatest fame in ancient times was due to his inventions of implements of war. In the second Punic War, while Marcellus was besieging Syracuse, he was said to have set fire to the Roman ships by the sun's rays, reflected from a series of mirrors. This statement, which is not mentioned by the historians Polybius, Livy or Plutarch, has been much discussed and written about in modern times. It is now generally regarded as a fiction, though one investigator, Buffon, while preparing a dissertation on the subject, succeeded in igniting wood at a distance of 150 feet by a combination of 148 plane mirrors. Of far greater real importance was the invention of "Archimedes' screw," which he devised for the purpose of pumping water from the hold of a great ship which he had built for Hiero. This instrument is also said to have been used by the inhabitants of lower Egypt for irrigating their land. Another celebrated invention of Archimedes was a sphere, representing by hydraulic power the movements of the heavenly bodies, but of this, unfortunately, we have no description. Next in rank to Archimedes were Ktesibios and Heron—or Hero, as his name is commonly written. The former was probably born in Askra, in Boeotia, in 150 B. C.; according to others, at Alexandria, a hundred years earlier. He invented a clepsydra, or water clock (which must have been of a complicated mechanism, since the hours were of different lengths at different seasons), and a water organ. He was the first to discover the elastic force of the air, and to use it as a motive power. His pupil, Heron, was more famous than his teacher, and was the author of a number of brilliant inventions, for which he has only in comparatively recent times received credit. His name is well known from the familiar pneumatic experiment called "Heron's fountain," in which a jet of water is maintained by condensed air. He also has the credit of inventing the first "steam engine," which acted exactly on the principle of "Barker's mill," except that steam, and not water, was the motive power. It consists of a boiler, having arms with lateral orifices, which were capable of revolving around a vertical axis; the steam issued from the orifices, and the uncompensated pressure upon the parts opposite these turned the boiler. He invented a double force-pump, used as a fire engine, and various other applications of the elasticity of air and steam. He did not use steam power for the performance of definite mechanical work. This was first done by Anthemius, of Tralles, in Lydia, who lived in the time of Justinian. Heron also gave his attention to the invention of mechanical toys and curiosities, and wrote a book on "How to Make Automata." Among his devices of this kind are recorded a self-lighting fire for sacrificial offerings, and an appliance for representing thunder in theatrical performances. Anthemius, who has been mentioned above, was not only a famous mathematician and architect, but somewhat of a practical joker. On one

occasion he is said to have arranged cauldrons of water in a lower room of his house, each vessel being covered with the wide mouth of a leather tube, which was conducted to the attic of his next-door neighbor, Zeno, against whom he had a grudge. The water was heated, and the steam, rising into the confined space under the roof, shook the adjacent house like a slight earthquake much to the amazement of Zeno and his family. At another time, when Zeno had friends to dine with him, the company at the table were startled by the dazzling light flashed into their faces by mirrors arranged for the purpose by the waggish Anthemius, while frightful noises, accompanying the blaze, suggested a sudden thunder storm. Philon of Byzantium, who lived some time before Heron, understood that air could be compressed or expanded, and explained correctly the working of a cupping glass. The foremost Roman in this branch of science was Vitruvius, the celebrated writer on architecture. His birthplace is not known; he lived during the first century, B. C. He invented a hoisting machine, which seems to have united the principles of the pulley and the windlass, and an odometer which measured the distance traversed on foot, or in a vehicle. The latter was practically the same in principle as the pedometers and cyclometers of the present day. He also knew and made practical use of the fact that water rises to the same height in communicating tubes of different shapes and dimensions. Frontinus, who lived in the time of Vespasian, wrote a work on "The Aqueducts of the City of Rome." In the course of his investigations, he was the first to observe that not only the size of the outlet, but also the elevation of the surface of the water above it, regulated the amount discharged in a given time, thus enrolling himself among the predecessors of Torricelli. The grammarian, Priscian, who lived at the end of the fifth century of our era, is said to have invented an hydrometer, which was, however, limited to determining which of the two fluids examined at the same time was the heavier.—*Dr. J. C. Rolfe, in Pop. Sci. News.*

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

December.

MEAT.—Beef, mutton, pork, venison, veal.

POULTRY AND GAME.—Chickens, fowls, ducks, geese, turkeys, grouse, capons, hare, rabbit, partridge, pheasants, pea-fowl, Guinea-fowl, snipe, widgeon, wild duck, woodcock.

FISH.—Brill, carp, cod, crabs, perch, salmon, smelts, soles, sprats, tench, turbot, whiting, halibut, sturgeon, oysters.

VEGETABLES.—Jerusalem artichokes, beets, broccoli, cabbage, carrots, celery, endive, winter spinach, eschallots, turnips.

FRUIT.—Apples, oranges, bananas, nuts.

PRACTICAL RECIPES.

CREAM OF CELERY.—Take six or eight stalks of celery and cut them into small pieces; put them into a saucepan with one red onion quartered, one blade of mace, salt, and six whole pepper-corns; add a quart of veal broth or stock, and boil one hour. Rub the ingredients through a sieve; put the pulp into a saucepan, and add one quart more of stock; boil; then draw to one side of fire to keep warm. Boil three pints of rich cream; strain it into the soup; whisk the soup at the same time (if not thick enough to suit your taste, add a little flour); taste for seasoning; pour it into a hot tureen; serve with small, square pieces of toast.

BEEF STEAK PUDDING.—Make a paste of six ounces of chopped suet and three-quarters of a pound of flour; or the same weights of butter and flour; butter a pudding basin; line it with the paste. Cut up some rump steak, with a moderate proportion of the fat; season with pepper, salt, a little chopped onion and parsley; fill the lined pudding basin with this, add a little stock or water, cover with paste, tie it over with a buttered and floured cloth; boil for three or four hours; serve with tomato sauce.

TOMATO SAUCE.—Tomatoes sliced; put them into a stewpan with a little butter, pepper, salt and a little sugar; melt them. Rub through a sieve, boil up, and improve the consistence with a little corn flour mixed in cold water.

DEVILED SOFT CLAMS.—Chop fine two bunches of clams; season with pepper, salt, butter, parsley, green pepper and a little sausage meat; add enough cracker crumbs to thicken slightly, and bake in clam shells or small dishes in which they may be served.

FRIED POTATOES.—Put two slices of fat ham in a pan, with half a sliced onion; when both are brown, remove them and put in the hot fat two cupfuls of cold boiled potatoes cut into small pieces; season with pepper and a little salt, and serve quite hot.

FIG PUDDING.—Three-quarter pounds grated bread, half a pound of figs, six ounces suet, six ounce brown sugar, one teacupful milk, one egg—nutmeg.

Figs and suet must be chopped fine. Mix bread and suet first. Then the figs, sugar, nutmeg, egg beaten well and lastly the milk. Boil in a mold (pudding steamer) four hours. Serve with sweet sauce. Orange peel is an improvement.

Sauce.—Powdered sugar and butter worked to a cream; one egg well beaten, yolk and white separately a little boiling water, wineglassful of sherry.

SPONGE CAKE.—Sift together a pint of corn meal, a quart of wheat flour, a full teaspoonful of salt, a tablespoonful of Horsford's baking powder; beat together the yolks of four eggs, half a pint of sugar, three ounces of melted butter and a pint and a half of rich milk; put the two mixtures together, add the beaten whites of two of the eggs, and bake in bread or cake tins.

HICKORYNUT MACAROONS.—To hickorynuts pounded fine add mixed ground allspice and nutmeg; make a frosting as for cakes; stir in the meats and spices, putting in enough only to make it convenient to handle; flour the hands, and make the mixture into balls about the size of a nutmeg; lay them on tins well buttered, giving room to spread; bake in a quick oven; use washed butter for greasing the tins; lard or salt butter gives an unpleasant taste.

BRACELETS.

ONE OF THE FIRST FORMS OF HUMAN ADORNMENT.

The history of the bracelet is a chapter of the history of coquetry. It is one of the most ancient of jewels. Among the Israelites the gold bracelet was used alike by the two sexes. When Juda encounters Tamar, the latter asks in exchange of favors his staff, his ring and his bracelet. When Saul had perished by his own sword, a warrior despoils him of his bracelets with which his arms were covered. "For the construction of the tabernacle," it is said in the Exodus, "both men and women offered their jewelry, among which were quantities of rich bracelets." The Greeks and Romans also wore bracelets. After a time the latter abstained from wearing them daily. They were conferred as a mark of distinction, as a souvenir of some great act, and the possessor guarded them consequently as glorious decorations, and contented himself with suspending them upon his breast on days of ceremony and triumph, in the same manner as a general to-day wears his orders and insignias. In this manner the bracelet became the insignia of the warrior. The plebeian classes, dancing

girls and others, wore them around the wrists and ankles. The Gauls were also great lovers of the bracelet. At Pont-Audemer is to be seen a magnificent gold bijou of this kind, very finely worked. It is attributed to the first part of the reign of the Merovingians. At the commencement of the sixth century no trace is found of the bracelet in France. A revolution has been effected in wearing apparel as well as morals. Ladies' wrists are ornamented with large, colored silk cuffs, embroidered with gold and pearls. This fashion ends with the Carolingians. When was the time that fashions prevailed longer than one dynasty? Later on ladies wore tight and buttoned sleeves, terminating at the wrist. In the twelfth century, Jean de Garlande specifies the works made by goldsmiths—hanaps (large cups) of gold and silver, necklaces, pins, knots and rings; but nothing is said of bracelets. Finally, "manacles" were used; they were a sort of bracelet composed of a piece of stuff upon which jewels were sewn, until finally in the last half of the 14th century, the true metal bracelet appeared. It seems that it was worn by gentlemen, although secretly, as a kind of vow, a badge of servitude which they pledged to the lady of their thoughts. The history of Jehan de Saintre, chamberlain of King Charles VI., and one of the Lady des Belles Cousines, bears witness to this. When Jehan de Saintre vows eternal fidelity to his lady, she demands of him to constantly wear an emblem of attachment. "On the first day of May, which will be to-morrow," she tells him, "you will place a gold bracelet of some kind or other on your left arm, and wear it for a year." Next day he comes with the bracelet, which he is to wear, and the lady herself puts it on. From about that time this piece of jewelry has been called "bracelet." From about the middle of the 15th century the bracelet became a distinctive piece of ornament among the French ladies. At the time of the "Directoire," the women who had adopted the fashion of wearing a

robe à la Romaine ornamented their arms with six bracelets, three on each arm—one high up, another above the elbow, the third at the wrist. This is not all, however. They also wore rings on all their fingers, including the thumb; encircled their waist with a large sheet as belt, and wore large hoops in their ears. About 1830, bracelets assumed a great importance, and ranked even with literature and painting; in other words, they became "romantic." Although it may appear rather bombastic to assign so high a place to a piece of jewelry, nevertheless, nothing will qualify so well the artistic tendencies in this direction of the goldsmiths of that epoch. Bracelets appeared on the arms of ladies, composed entirely of pointed arches, in the midst of which ironclad warriors kept watch and ward. It is easy to imagine the enthusiasm with which they were received, being so well in keeping with the tendency of the people. At present, finally, the fancy and caprice of the day dictate to the jeweller the shape, either new or copied from former ages, to be given to their bracelets; sometimes a serpent twisting itself around the wrist, gold hoops with a long jewel, a chain, etc. The shapes vary to the infinite at present, and many of them are due to the ingenuity of our jewelry designs.

PLEASANT PROSPECT.—New Yorker: "Just think of Chicago's criminal record. How could people attend a world's fair in Chicago without running the risk of being robbed and murdered?"

Chicago Man (confidently): "Oh, there won't be any danger at all then, not a particle. Just as quick as the fair opens all the robbers will stop burglarizing and go to keeping hotels."—*New York Weekly.*

PAPER EXPORTS.—The Valley Paper Company, Holyoke, Mass., has recently sent to Mexico 1,500 reams of linen paper to be made into postage stamps. It is expected that the 1,500 reams will produce about 75,000,000 of stamps. The company is also finishing several cases of linen bond paper which will be sent to France.

UTILITY OF THE SPARROWS.—To the enemies of the English sparrows, who are making an unavailing attempt to eliminate the plucky little creature from the list of European immigrants to this country, the British consul at Baltimore points out that as a result of the terrible mortality resulting from the blizzard of March, 1888, there has been an increase of grubs and caterpillars corresponding to the decrease in sparrows. The sparrows eat the larvæ of destructive insects, preferring, so to speak, the egg to the chicken; but they get little credit for their usefulness.

FAITH FOLLIES.

CURRENT EXPOSURES OF CRIMINAL CHRISTIAN SCIENCE.

Should be Made an Example of.

On the evening of November 30 an officer of the Society for the Prevention of Cruelty to Children arrested Ole E. Larssen, aged twenty-nine, of No. 23 Woodhull Street, Brooklyn, for refusing to give medicine to his child, aged three years, who was sick with diphtheria. Dr. Prendergast, one of the physicians of the Society for Prevention of Cruelty to Children, was called to attend the sick child and he prescribed for it, but the father refused to administer the remedy. He said that he simply called in the doctor to comply with the law and would do no more. "If God wishes," he said, "to give my child diphtheria, let Him do so. He knows his business best and I won't interfere. I won't give any medicine. I have another child two years old, and if God wishes to give it diphtheria it is His will and I won't interfere." It was found to be useless to reason with Larssen, who is an adherent of the faith-cure belief held by many Scandinavians, and appears to be a fatalist. The matter was brought to the attention of the Charities Department, and it was decided to treat the case as one of contagious disease, bringing it under a clause of the Penal Code. Larssen was locked up and the child was cared for.

BUFFALO LITHIA WATER

In the Uric Acid Diathesis, Bright's Disease, Chronic Inflammation of the Bladder, etc.

JAMES L. CABELL, M. D., A. M., LL. D., Professor of Physiology and Surgery in the Medical Department in the University of Virginia, and President of the National Board of Health.

"The Water of Buffalo Spring No. 2 contains in notable quantities two of the ALKALIES which are accredited as extremely valuable in the treatment of GOUT, LITHIASIS, and Liver Affections. I refer to the CARBONATES of POTASH and LITHIA.

"I have recently read with interest a paper in 'The New York Medical Journal' on the Buffalo Lithia Water in Diseases of the NERVOUS SYSTEM, in which the writer, Dr. Boyland, citing his own observations and those of other eminent physicians, ascribes to this water a special virtue as a direct tonic for the NERVOUS SYSTEM in cases of CEREBRAL exhaustion. I have only had occasion to test its effects in this direction in cases in which the NERVOUS SYMPTOMS may have been due to LITHÆMIC conditions. In these cases the relief following the use of the remedy was very decided."

Dr. WM. A. HAMMOND, of New York, Surgeon-General U. S. Army (retired), Professor of Diseases of the Mind and Nervous System in the University of New York, etc.

"I have for some time made use of the Buffalo Lithia Water in cases of affections of the NERVOUS SYSTEM, complicated with BRIGHT'S DISEASE OF THE KIDNEYS or with a GOUTY DIATHESIS. The results have been eminently satisfactory. Lithia has for many years been a favorite remedy with me in like cases, but the BUFFALO WATER CERTAINLY ACTS BETTER THAN ANY EXTEMPORANEOUS SOLUTION OF THE LITHIA SALTS, and is, moreover, better borne by the Stomach. I also often prescribe it in those cases of CEREBRAL HYPERÆMIA resulting from over-mental work—in which the condition called NERVOUS DYSPEPSIA EXISTS—and generally with marked benefit."

Dr. ROBERT BATTEY, of Georgia, SUGGESTER OF BATTEY'S OPERATION.

"I would state that I have been using the Buffalo Lithia Water, No. 2, in my practice for three years past, in cases of CHRONIC INFLAMMATION of the BLADDER, whether induced by STONE, by enlarged PROSTATE in the aged or by NEGLECTED GONORRHOEA, AND HAVE SECURED EXCELLENT RESULTS, which encourages me to prescribe it for the future."

HUNTER MCGUIRE, M. D., LL. D., late Professor of Surgery, Medical College of Virginia, Richmond.

"BUFFALO LITHIA WATER, Spring No. 2, as an ALKALINE DIURETIC, is invaluable. In URIC ACID GRAVEL, and, indeed, in diseases generally dependent upon a URIC

ACID DIATHESIS, it is a remedy of extraordinary potency. I have prescribed it in cases of RHEUMATIC GOUT, which had resisted the ordinary remedies, with wonderfully good results. I have used it also in my own case, being a great sufferer from this malady, and have derived more benefit from it than from any other remedy."

Dr. WM. B. TOWLES, Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia.

"BUFFALO LITHIA WATER, No. 2, belongs to the ALKALINE or, perhaps, to the ALKALINE-SALINE Class, for it has proved far more efficacious in many diseased conditions than any of the simple ALKALINE waters.

"I feel no hesitancy whatever in saying that in GOUT, RHEUMATIC GOUT, RHEUMATISM, STONE in the BLADDER, and in all Diseases of URIC ACID DIATHESIS, I know of no remedy at all comparable to it.

"Its effects are marked in causing a disappearance of ALBUMEN from the urine. In a single case of BRIGHT'S DISEASE OF THE KIDNEYS I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of the disease."

Dr. THOMAS H. BUCKLER, of Paris (formerly of Baltimore), SUGGESTER OF LITHIA as a Solvent for Uric Acid.

"Nothing I could say would add to the WELL-KNOWN REPUTATION OF THE BUFFALO LITHIA WATER. I HAVE FREQUENTLY USED IT WITH GOOD RESULTS IN URIC ACID DIATHESIS, RHEUMATISM, AND GOUT, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. Lithia is in no form so valuable as where it exists in the Carbonate (the form in which it is found in the BUFFALO LITHIA WATER), Nature's mode of solution and division in water which has passed through Lepidolite and Spondumine Mineral formation."

Dr. GRAEME M. HAMMOND, of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital.

"In all cases of BRIGHT'S DISEASE of the KIDNEYS I have found BUFFALO LITHIA WATER of the greatest service in increasing the quantity of urine and in eliminating the ALBUMEN. In certain cases of Melancholia, accompanied by excessive eliminations of URATES and URIC ACID, it is often the only remedy necessary. In GOUT and RHEUMATISM it is highly beneficial, and in many cases of Impotence its restorative qualities have been of undoubted assistance. I have long regarded BUFFALO LITHIA WATER as the most valuable mineral water in use."

Water in cases of one dozen half-gallon bottles, \$5.00 per case at the Springs.

THOMAS F. GOODE, Proprietor, Buffalo Lithia Springs, Virginia.

ELECTRICAL PIANO PLAYING.

ONE OF THE LATEST WONDERS IN THE FIELD OF INVENTION.

The following description of an automotor electrical pianoforte from the *Boston Transcript* of November 22d, relates to an instrument, we presume, that was some months ago in operation in the Electrical Club of this city:

"A most interesting and surprising musical novelty has just been brought before the Boston public, and the first exhibition given in this city of an entirely new invention in electricity, being nothing less than an ordinary piano, played with marvellous execution and expression by simply introducing the electric current, and if the opinion of every person who has seen and heard it be taken as an indication, this wonderful invention is bound to immediately become a potent factor in musical circles and entertainments. Apparently it was the idea of the inventor to have the electrical appliance supply exactly the place of the absent human player, but in no way to obstruct or affect the ordinary use of the piano when desired to be played in the usual way. The electric stroke is made at the back of the key, throwing it up and thereby causing the hammer to strike the string, giving exactly the same motion and effect as produced by the human player when at the keyboard, and not changing the regular working of the piano in any way. The force of the electric blow to produce a loud or soft note is under perfect control. The *modus operandi* of all this is very simple, being nothing more than the old and well-tried appliance of the magnet and armature, familiar to every one who has ever seen a telegraph ticker. We all know how strongly attractive to any piece of iron or steel the magnet becomes when a current of electricity is carried through it, and that it at once loses its power when this current is broken. By application of this law and by making and breaking the circuit the stroke is given and repeated as often as desired. A rapid, certain and durable means of producing the alternations indicated was necessary to the success of a piano that would be acceptable in this age of musi-



irresistible. Beware of imitations.

Does it hurt the Clothes?

We hear that some woman said of Pearline—"it's the greatest thing I ever saw for easy washing and cleaning, in fact it does so much I'm afraid of it." She recalls the old saying, "too good to be true."

How absurd to suppose that the universal popularity of Pearline is due to anything but wonderful merit.

How absurd to suppose that millions of women would use PEARLINE year after year if it hurt the hands or clothing.

How absurd to suppose that any sane man would risk a fortune in advertising an article which would not stand the most severe (and women are critical) tests.

That's just what Pearline will stand—test it for easy work—quality of work—forsavingtimeandlabor—wearand tear—economy—test it any way you will—but test it. You'll find Pearline irresistible. Pearline is never peddled. Manufactured only by JAMES PYLE, N. Y.

TO THE CONSUMER!

"PAVONIA BEER"

MANUFACTURED FROM THE

Best Grade of Imported Malt and Hops.

ENTIRELY FREE FROM THE PUNGENT TASTE OF THE ORDINARY BEERS.

It commends itself to the Consumer as a pure, wholesome and delicate Beer; can be safely used by Invalids.

Specify Export Pavonia Beer, White Label, when ordering

OTIS S. NEALE,

HOWARD STREET,

BOSTON, MASS.

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE

SCRIPT NAME OF

ON LABEL, AND GET THE GENUINE

Stewart Hartshorn

HARTSHORN

Fine Table Wines

From our Celebrated Orleans Vineyard.

Charles H. Harbath & Co.

Producers of the

ECLIPSE

CHAMPAGNE,

530 Washington St.

SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

cal culture, and it is here that the inventor has immeasurably gone ahead of all other attempts in this field of invention, and produced a most ingenious and simple method of accomplishing the desired result. A spool of paper represents the music to be played; in it the notes are perforated, instead of printed as on ordinary music, and this spool is placed over the keys, the paper passing over a small rest (called the tracker board), in which are a number of holes or air channels, corresponding to the keys of the piano, and through each one of these holes the air passes to a little pneumatic, placed under the rest (one of these to each key also) and all of them enclosed in an air-tight box. As soon as the piano is set in motion, the spool revolves the paper, passes over the rest, in which are the little air channels, and when a perforation in the paper comes to correspond with a channel in the rest, a current of air is drawn into the pneumatic, expanding it to its fullest extent. On the bottom of this pneumatic is a metallic spring, and as the expansion takes place, this meets a contact point arranged for it, the circuit is completed and the stroke made. When the perforation has passed the air channel and the solid paper again covers it, the pneumatic below, relieved of the exhaust and under pressure of the spring, closes, the circuit is broken, but the instant another opening appears, the operation is repeated, and so on. In the paper music sheet the perforation marks the duration of the note and its relation to the other notes of the piece being played. The tempo is governed by the speed with which the paper passes from its spool. As this is rotated by a small wind motor, moving fast or slow, much or little air is admitted, and a single slide stop brings the entire instrument under perfect control. The electric current required to operate this instrument is very light and the voltage low, not exceeding eight volts, and is absolutely harmless under any circumstances. The method adopted to obtain this light current has been to use storage cells charged from the ordinary gravity battery or from any of the street wires, and thus supply steadily the current required. To those who have been within the fascination of this electric siren, with its rippling notes and weird harmony, stirring our pulsations with some brilliant movement of Chopin, or compelling our admiration of the delicate fingering and intricate beauties of Liszt, or the sad, sympathetic chords of Gottschalk, all given with a precision of touch and beauty of expression that must be heard to be believed and appreciated, this invention seems most wonderful, and we can only say to those who desire to be entertained, gratified and astonished: See the electric piano."

HOSPITAL REMEDIES

THE Favorite Prescriptions of the Brightest Medical Minds in the world, as used by them in the Hospitals of London, Paris, Berlin and Vienna.

ONE MEDICINE FOR ONE DISEASE.

- No. 1—Cures Catarrh, Hay Fever, Rose Cold, Catarrhal Deafness.
- No. 2—Coughs, Colds, Bronchitis, Asthma, Consumption. A Peerless Remedy.
- No. 3—Rheumatism, Gout.
- No. 4—Liver & Kidneys, Dyspepsia, Indigestion, Constipation, Brights Disease.
- No. 5—Fever and Ague, Dumb Ague, Malaria, Neuralgia.
- No. 6—Female Weakness, Irregularities, Whites. A Golden Remedy.
- No. 7—A Perfect Tonic, which gives Health, Form and Fullness, Clear Complexion, Good Blood and lots of it.
- No. 8—Nervous Debility, Loss of Power, Impotence, an incomparable remedy.

RELIABLE AGENTS WANTED.

Every bottle guaranteed to cure its special disease if CURABLE and to give permanent relief ALWAYS. Descriptive Circulars sent free on application. HOSPITAL REMEDY COMPANY, Toronto, Canada.

RUSSIAN ICE.—An ice palace according to the American and Canadian style, is to be erected in January at St. Petersburg.

PAINT FOR IRON.—It is claimed that paint made with turpentine is a better protector for iron work than when it is mixed with flaxseed oil.

FEMININE ARTISTS.—Of late years the number of women entering the profession of painting and sculpture has enormously increased in France, Germany, and Russia.

VESUVIAN VISITORS.—Two hundred a day was the average number of tourists who ascended last month the Vesuvius railway to look down into the mouth of the volcano.

EGYPTIAN COTTON.—The Egyptian cotton crop is larger this season than ever before, and the cotton is of a superior quality, though not equal to that of the United States.

PAPAL RETRENCHMENT.—The Papal stables which used to have forty horses in Pius IX.'s day, have been cut down to eight horses, and instead of a dozen carriages they have four.

POPULARIZING RELIGION.—A museum of religion, the Guimet Museum was inaugurated in Paris two weeks ago. It is intended to facilitate the study of ancient religions by means of a collection of pictures, objects of worship, and books.

GOOD FOR THE SOLE.—A new sort of boot sole has been introduced in Neuremberg, consisting of a sort of trellis of spiral metal wire, the interstices being filled with gutta percha, and rosin. They can be fitted with nails like ordinary soles, are fifty per cent. cheaper than leather, and vastly more durable.

DUDE'S SLANG.—Parisian dandies are seeking for a substitute for the word *chic*. The words *pschutt* and *vlan* have been employed in its place, and *tres swell*, *tres sport*, and *felard* are being heard now, but none is thought to be so comprehensively or universally expressive as *chic*. So *chic* shows signs of coming back to stay.

ACCOUNTED FOR.—The origin of the word "hurrah" has for some time been a theme of discussion in the press. A writer in *Public Opinion*, an English journal, expresses the conviction that "it is nothing but an enlarged form of hurr (signifying a rapid movement), and is of purely Teutonic origin." Also, that the word "hurry" is its Anglicized form.

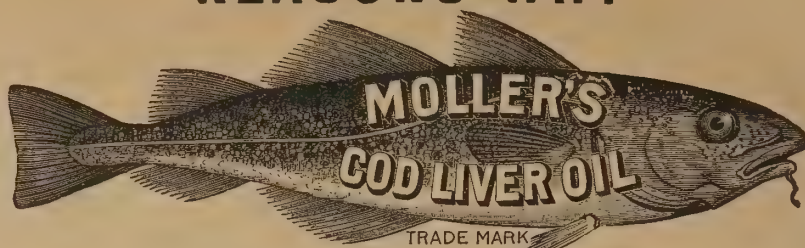
BENEVOLENT BREWER.—A recent rival of George Peabody has appeared in Sir Edward Guinness the great brewer, who has given £250,000 to the poor of London and Dublin, to be used in the erection of artizan's dwellings—£200,000 for London and £50,000 for Dublin. The sum has been turned over to trustees, of whom Lord Rowton is the chief.

PROCESS OF CREMATION.—There are now thirty-nine crematories in various parts of the world. Italy has twenty-three, America has ten, while England, Germany, France, Switzerland, Denmark, and Sweden have one apiece. In Italy there were two cremations in 1876; the number rose to fifteen in 1877; and in 1888 the number was 226. Since 1876, 1,177 cremations have taken place in Italy, while the combined numbers from all other countries brings the total only to 1,269.

NEW ANTISEPTIC.—Saccharine is regarded by a French writer as a valuable antiseptic. A strength of 1 to 500, as an addition to mucilaginous and other solutions, prevents the formation of low organisms. Thus a valuable, inexpensive dentifrice may be prepared by simply dissolving saccharine in water, to the proportion of six per cent. A teaspoonful of this in a half-pint of water forms an admirable antiseptic mouth-wash. In cases of malignant or other disease of the stomach, requiring the washing out of that organ, a solution of saccharine of the strength of two per cent, will be found very suitable.

A BOUDOIR LAUNDRY.—Laundrymen charge 5 cents for doing up a handkerchief, but ingenious young women with an eye to economy or when placed where it is difficult to get such laundry work done, manage to get along very well by doing their own washing in a basin and by ironing the handkerchiefs by spreading them out when wet flat upon the surface of a mirror. A handkerchief spread out in that way will come off when dry with as good a polish as could be put upon it by an iron.—*Sun*.

REASONS WHY



Should be preferred to all others:

Because—It is genuine-pure, just as it existed in the hepatic cells of the living fish, not depleted of its natural virtues by any process of refining, nor weakened by being made into an emulsion with an equal quantity of water, glycerine, etc., which latter device makes water bring the price of Oil.

Because—In taste and smell it is not offensive, but instead, sweet and agreeable.

Because—Its administration is always followed by satisfactory results.

Because—It is more easily assimilated than other Oils.

Because—It is more nutritious than other Oils.

Because—Of its perfect digestibility, perfect limpidity.

Because—This perfect Oil costs consumers no more than the poorer qualities abounding in the stores.

Because—It is readily obtainable; all well-stocked Drug Stores have it.

Because—It is unquestionably the purest and best COD-LIVER OIL IN THE WORLD.

W. H. SCHIEFFELIN & CO.,
NEW YORK.

Sole Agents for U. S. and Canada.

AMERICAN RUBBER GOODS.—American made gossamers, macintoshes, and other rubber goods of that sort are said to be driving the imported goods out of the market in this country. The foreign goods, either on account of being less well made, or because the climate here does not suit them, will not wear like those made in this country and for this climate. The imported garments turn stiff and hard after a while and even come apart at the seams when heated a little, while American manufacturers are alleged to have succeeded in avoiding both these difficulties.



BLAIR'S PILLS
Great English Remedy for Gout,
Rheumatism and Kidney
Complaints.

Sure, Prompt and Effective. Oval form,
round box 14 pills.
At all druggists, and 224 William St.,
New York.

AMERICAN ANALYST CLUB RATES.

	Price including Regular American Price. Analyst.		Price including Regular American Price. Analyst.		
American Rural Home.....	\$1 00	\$1 50	Harper's Weekly.....	\$4 00	\$4 00
American Agriculturist.....	1 50	1 60	Harper's Monthly.....	4 00	3 80
Art Amateur.....	3 50	4 00	Household.....	1 10	1 35
Arthur's Home Magazine.....	1 50	2 00	Housekeeper.....	1 00	1 25
Art Interchange.....	3 00	3 25	Ladies' Home Journal, Philadelphia.....	1 00	1 50
Babyhood.....	1 50	1 60	Ledger, N. Y.....	3 00	3 00
Ballou's Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Cassell's Family Magazine.....	1 50	1 75	National Tribune, Washington.....	1 00	1 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Day, Boston, ...	3 00	2 50
Christian Union.....	3 00	3 10	Our Little Ones and Nursery.....	1 50	1 75
Cosmopolitan, N. Y.....	2 40	2 50	Outing, N. Y.....	3 00	3 00
Cottage Hearth.....	1 50	1 50	Peck's Sun.....	2 00	2 25
Country Gentleman.....	2 50	2 50	Peterson's Magazine.....	2 00	2 00
Current Literature.....	3 00	3 00	Popular Science Monthly.....	5 00	4 75
Demorest's Magazine.....	2 00	2 10	Puck.....	5 00	4 50
Family Story Paper.....	3 00	3 00	Rural New Yorker.....	2 00	2 30
Farm and Fireside.....	50	1 00	Saturday Night, Philadelphia.....	3 00	3 00
Fireside Companion.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Forum.....	5 00	5 00	Scientific American.....	3 00	3 25
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Scribner's Magazine.....	3 00	3 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Vick's Illustrated Monthly.....	1 25	1 60
Godey's Lady's Book.....	2 00	2 25	Wide Awake.....	2 40	2 60
Golden Days.....	3 00	3 00	Yankee Blade.....	3 00	1 50
Good Housekeeping.....	2 50	3 00	Young Ladies' Journal, English Edition.....	4 00	3 50
Harper's Bazar.....	4 00	4 00	Youth's Companion.....	1 85	2 25
Harper's Young People.....	2 00	2 25			

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

These Men and Women Differ in Character.



ALL THESE) WOULD YOU NOT LIKE TO KNOW (FROM LIFE
 what these Faces indicate? You can easily learn to read them as you would a book, and
IF YOU WANT SOMETHING

that will interest you more than anything you have ever read and enable you to understand
 all the differences in people at a glance, by the "SIGNS OF CHARACTER," send for a copy of
"HEADS AND FACES; How to Study Them."

A new Manual of Character Reading for the people, by Prof. Nelson Sizer, the Examiner
 in the phrenological office of Fowler & Wells Co., New York, and H. S. Drayton, M.D., Editor
 of the PHRENOLOGICAL JOURNAL. The authors know what they are writing about, Prof. Sizer
 having devoted nearly fifty years almost exclusively to the reading of character, and he here
 lays down the rules employed by him in his professional work.

This is a most delightful study and every one should know "How to Read Character,"
 and in this way be able to understand the motives and character of people met daily. This knowl-
 edge will enable employers to choose wisely and will enable employees to meet the requirements
 of peculiar people whom they may be required to please.

A knowledge of Human Nature would save many disappointments in social and business life.
 This is the most comprehensive and popular work ever published for the price, 75,000 copies
 having been sold. Contains 200 large octavo pages and 250 portraits. Send for it and study the
 people you see and your own character, and if you are not satisfied after examining it, money
 will be returned to you.

We will send it carefully by mail, postpaid, on receipt of price, 40 cents in paper, or \$1.00
 on heavy paper, in extra cloth binding. Agents wanted. Address

FOWLER & WELLS CO., Publishers, 777 Broadway, New York.

N. B.—If you will state where this advertisement was seen, we will send you free a sample
 copy of the PHRENOLOGICAL JOURNAL, published monthly at \$1.50 a year, 15 cents a number.

TRADE MARKS.

For information regarding Trade Marks, Protection against In-
 fringements and Imitations. Address,

AMERICAN ANALYST,

19 PARK PLACE, NEW YORK.

TWELFTH SEASON.

MRS. McELRATH'S

Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams, Pickles and Mince Meat.

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circulars, with references and prices,
 sent on application. Address,

Mrs. SARAH S. McELRATH, 393 Degraw Street, Brooklyn, N. Y.

Tabasco Pepper Sauce OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by
 Pressure.

The seed of this Pepper was obtained from Central
 America, and by careful cultivation in Louisiana for many
 years has been so improved in strength, flavor and aroma, as
 to have become a new variety of Red Pepper, superior to all
 others. The pulp is so handled as to retain all the flavor,
 strength, aroma and color of the ripe fruit, and to keep un-
 impaired in any climate. It excites the appetite, promotes
 digestion, and is pronounced, by connoisseurs, to be the finest
 condiment in the world. For medicinal purposes it recom-
 mends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

Established in London, 1831.

DEAN'S PATENT ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians.
 The medicinal property are English mustard seed coated with
 pepsin and sugar. You will find it will relieve you after using
 two or three doses. It is very beneficial for Heartburn, Sour Stom-
 ach and Headache. They are a beautiful confection for children.
 Each bottle contains full directions.

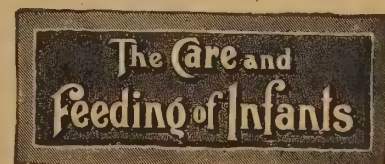
W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
 North Moore Street, New York.



The Only Perfect Substitute for Mother's Milk.

A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, GOODALE CO.,
 40-41-42-43 Central Wharf, Boston, Mass.



THE GREAT AMERICAN TEA COMPANY

BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM No. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas just Received, which are Picked from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3½ lbs. of our very Fine Teas on receipt of \$2.00. When ordering be

particular and state if you want Formosa or Amoy, Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea! For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,
UNION STOCK YARDS,
CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructives by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wit's end what to do.

J. MILNER POTTERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dinmock, **ONLY THREE** possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract. **WILLIAM ROBERTS, M.D., F.R.S.**

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity.

The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College. At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alternatives.	Quinia, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analyses by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any of the Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,
54 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the **AMERICAN ANALYST.**



The Edge Hill Wine Co.,
10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.
STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Mole, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pittings, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist, 125 West 42d Street, NEW YORK CITY, N. Y.
P. S.—Use Woodbury's Facial Soap for the skin and scalp; for sale at all druggists, or by mail, 50 cents.



Rogers' Royal Herbs.

Cures Constipation, Biliousness, Dyspepsia, Sick Headache and Kidney Troubles. It is the great **LIVER & KIDNEY CURE.**

Unequalled for producing a fine complexion. Makes the skin fresh and clear by purifying the blood. *Provided you will name this publication and*

SEND 10c. we will mail you a trial package; or the regular package for \$1.

Rogers' Royal Remedies Co., 41 Essex Street, Boston, Mass.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

CEO. H. HAMMOND & CO.,
607 to 615 THE ROOKERY,
CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

JOHNSON LOCKE MER. CO.

Shipping & Commission Merchants,
SAN FRANCISCO, CAL.

Agency at **PORTLAND, ORE.** Agency at **LOS ANGELES, CAL.**

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins, Walnuts, Almonds, Dried Grapes, Borax, Barley, Mustard Seed, Salmon, Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

❖ **PICTURES.** ❖

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON, PASTEL, WATER-COLOR, OIL, OR INDIA-INK,
at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
 47 West Twenty-Second St., New York.

Pure * LAGER BEER,

"IMPERIAL" and "CULMBACHER"

Brewed & Bottled

SPECIALY FOR HOTELS, CLUBS

AND PRIVATE FAMILIES
 BY

Beadleston & Woerz
 291 W. 10th St. New York.

Orders by Postal Card
 promptly attended to.

LEA & PERRINS'
SAUCE.



Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

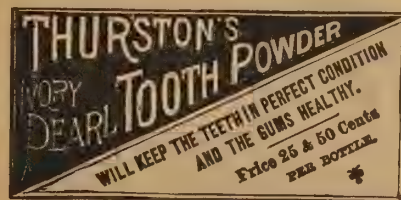
JAMES CHALMER'S SON'S
Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



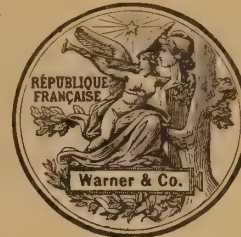
Sura Cura **ROBINSON'S SURE CURE FOR RHEUMATISM AND NEURALGIA,**

And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA.** Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
 184 Greenwich Street,
 NEW YORK.



Sura Cura



TO MESSRS. WM. R. WARNER & CO.

I have used Effervescing Bromo-Soda very extensively, and can cheerfully recommend it to my professional brethren. It is of great value to those practitioners making a specialty of Nervous and Mental diseases. The addition of the grain of Caffein Hydrobromate to the thirty grains of Sodium Bromide, I think a most happy idea. I recommend your Bromo-Soda, because I have used Sodium Bromide for years instead of the Potassium Bromide. Sodium Bromide is not a foreign salt in the system, is much less depressant, can be used where the heart is extremely weak, and does not impair the integrity of the muscular tissue. Does not cause bad breath, neither does it cause acne, nor impair pharyngeal sensibility. It is much more palatable, and has the happy faculty of agreeing with the stomach, where the corresponding Potassium Salt often gives us so much trouble. I find Effervescing Bromo-Soda very valuable in cases superinduced by over-work of a mental kind. In fact, at times when overworked, I have refreshed myself with a little in water.

I use Effervescing Bromo-Soda in dessert-spoonful, rather than tea-spoonful doses, desiring to spare myself the necessity of repeating. I put this quantity in a glass not quite half full of water, order it drunk while effervescing, and find it to operate as if by magic.

J. K. BAUDY, M.D., L.L.D.,

Professor of Nervous and Mental Diseases,

Missouri Medical College,

St. Louis, Mo.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest and Most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in Cans.

PRICE BAKING POWDER CO.

NEW YORK. CHICAGO. ST. LOUIS.
SAN FRANCISCO.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,

And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

→GLENN'S← SULPHUR

✦ SOAP.

Physicians know the great value of the local use of sulphur in the **Treatment of Diseases of the Skin.**

Glenn's Sulphur Soap is the Original and Best combination of its kind, and the one now generally in use. For sale by **All Druggists.**

Beware of Counterfeits.

Wholesale Depot,

C. N. CRITTENTON,

115 FULTON STREET,

NEW YORK.

Samples of above Soaps SENT FREE on application.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 51.

NEW YORK, THURSDAY, DECEMBER 19, 1889.

WHOLE No. 147

American Analyst, PUBLISHED EVERY THURSDAY.

Subscription, - - - - \$1 per year.
Single Copies, - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

A Useful Fan	604
Bodily Force	608
California Industries—Continued	604
Cocoanut Butter	608
Domestic Dietetics	604
Editorials	601
The National Food Standard; The Government Endorses the AMERICAN ANALYST; Light and Electricity Identical; Aerial Playgrounds; An Immense Refinery; A Valuable Decision.	
For the Consumer's Benefit	605
German Cookery	602
Origin of Fruits	604
Paints and Pigments	605

THE NATIONAL FOOD STANDARD.

The National Food Commissioners Association, organized on November 27th in Cleveland, to which reference was made in the last issue of the AMERICAN ANALYST, is evidently desirous of avoiding some of the most marked pitfalls into which its predecessors in the same interest have invariably fallen. It is eminently an organization for the benefit of the consumer, and if it can be sustained on the line it has set out upon, it will in all probability be of great service to that much abused and persistently humbugged element of society. Not having yet received a complete copy of the constitution adopted in Cleveland, we are limited in our discussion of the movement to such points as we have been able to glean from the western newspapers. The announced object of the association is "to establish a uniform standard for the purity of human food and drink, and encourage the honest manufacturer and dealer, and protect the consumer." Anybody can become a member who is connected with a dairy and food commission of any State, or any member of a State dairy association, or any member of the National Board of Health, or of any

State board of health, or any person appointed by the governor of any State to represent the production of pure food. The following gentlemen interested in pure food were present: H. D. Sherman, State food commissioner of Iowa; H. C. Thom, Wisconsin commissioner; H. K. Loomis, assistant, and Hiram Smith, also of Wisconsin; Lovejoy Johnson, president of the Elgin, Ill., board of trade; Colonel Littler, of Chicago, president of the National Cheese, Butter and Egg Association; W. L. Eberman, assistant commissioner and chemist of Minnesota; F. A. Derthick, food commissioner of Ohio, and his assistants, Henry Talcott, of Jefferson, and John J. Geghan, of Cincinnati; John Gould, a dairy farmer, of Aurora, O.; Dr. H. D. Beckwith, of Cleveland, president of the State food commission. An invitation was extended to the governors of all States in which there is no food commission, to send delegates. George M. Sterne appeared with an appointment from the governor of Illinois, but he was not admitted as a delegate because he is an agent of a manufacturer of food, and it was the unanimous sentiment that he was not eligible. In explaining the objects of the association, Commissioner Derthick said: "There have been so-called national food commissions in the interest of pure food, but they always admitted the representatives of manufacturers of food, who sent skilled attorneys, as a rule. The meetings never resulted in any good to the people. Our organization is a new departure. We are mostly public officials, and of course represent no interest except that of the people—the producers. We want to protect the consumer, the honest manufacturer and the dealer. I have been gathering full lines of foods on the market of Ohio," continued Ohio's commissioner, "in which adulterations can be practiced, and submitted them to our chemist. Seventy-five per cent. of them were adulterated. Cream tartar from drug stores, where we usually expect to secure pure articles, had 54 per cent. of alum and 20 per cent. of corn starch. That is a very serious matter, because cream tartar is used in physicians' prescriptions."

THE GOVERNMENT ENDORSES THE "AMERICAN ANALYST."

The new Department of Agriculture has at last given reason for its existence by the issuance of a report which shows that it has been giving much time to the investigation of a subject of great popular interest, and one which has been fully exploited in these columns. It may not be quite clear to the public mind what branch of agriculture the subject of baking powder belongs to, unless it bears a relation to the digestive organs of the horny-fisted husbandman, but nevertheless the full force and ability of Secretary Rusk's bureau has been brought to bear upon this matter. The attention of the department was directed to the question by the much-advertised discussions between the proprietors of rival baking powders, in which attempts are made to demonstrate that death lurks in the oven for the householder

who does not purchase wisely. The report of the department explodes many popular fallacies. Some idea of the importance, however, of the subject investigated may be formed from the fact that over \$25,000,000 are annually expended by consumers of different varieties of baking powders. The public fight has been between powders made from cream of tartar and those made from acid phosphates, also those containing burnt ammonia and alum in conjunction with other substances. A very bitter warfare, in which fortunes have been expended, has been waged between the proprietors of these different kinds of baking powders. The Government chemists find that this windy battle has been very idle; for their conclusion, after elaborate analyses, is that none of the baking powders are injurious to health, but that they vary in leavening power as well as cost. Some have additions of carbonate of ammonia, which is not officially endorsed. One recommendation in the official report should be remembered by every housekeeper, and it is that only fresh powders should be used, those that are old and stale having no raising power worthy of mention, and being more or less injurious to the digestive organs. This is the position which the AMERICAN ANALYST has always maintained, and for which it has been unsparingly abused by unscrupulous advertisers, whose bribes it refused and whose cajolery it turned a deaf ear unto. It is, therefore, doubly pleasant to be sustained and endorsed by the United States Government.

LIGHT AND ELECTRICITY IDENTICAL.

A paper was read before a body of scientists in Heidelberg last September by Prof. H. Hertz, the purpose of which was to establish the identity of light and electricity. The scientific world has long been impressed with the belief that such identity existed, the investigation of the subject having been partially carried out by Faraday and others, but the theory seems likely to be lifted out of the domain of bare speculation by the apparently conclusive results of Prof. Hertz's experiments. The thesis supported in the lecture referred to may be thus stated—Light is an electric phenomenon in its very essence; the light of the sun as well as that of a candle or a glowworm. Suppress electricity in the universe, and light disappears; suppress the luminiferous ether, and electric and magnetic forces no longer exert any influence through space. We shall not at present quote from the paper as we prefer giving it to our readers in extenso at an early date. The gist of the subject is well set forth by the *Electrical Review*, which comments editorially on Prof. Hertz's propositions, says:—"According to these wonderful experiments, light waves and heat waves only differ from electric waves in the character of their motion—all taking place in the same medium—the ether. Hereafter optics must be studied under the head of electricity, and a log fire must be considered as an electrical generator. Electricity plays a part in our organism hitherto unsuspected.



According to the new theory, the eye itself is an electrical instrument. The undulatory theory of electricity now seems to have as good a foundation as the undulatory theory of light, so that there is but one more of the mysterious 'actions at a distance' which remains to be explained—gravity. From its very nature, Prof. Hertz thinks that an explanation must ultimately be found, and that as a result of it all we may some day find that matter itself is simply ether in motion."

AERIAL PLAY-GROUNDS.

A plan for school play-grounds, which has obtained in London for some years, has, according to a writer in the *Scientific American*, been mooted in New York in connection with new school buildings in the crowded tenement district of the east side. In these regions space is limited and dear, and the play-rooms are usually in dark and damp basements. Now it is proposed to try the experiment of having play-grounds on the roof. The plan is to carry the walls up another story, but to have no roof. In wet weather a canvas top would be spread over the room, but at all other times the children would have the full benefit of the air and the sun. This experiment has been tried in London, and has been found to work satisfactorily, and in one case a glass roof—forming a "crystal room"—was set up, to the great delight and comfort of the little ones. The *Sanitary News* declares that the aerial experiment in play-grounds will certainly be tried in connection with one of our schools.

AN IMMENSE REFINERY.

In Philadelphia, on December 9th, the work of refining sugar was begun in Claus Spreckels's immense new sugar refinery. The capacity of the refinery is 2,000,000 pounds of sugar every twenty-four hours. The actual cost of the buildings, machinery and site will amount to more than \$3,000,000. Mr. Spreckels a short time ago decided to duplicate the whole of the buildings now in operation. This will give the refinery a capacity of 4,000,000 pounds, or 2,000 tons of sugar every twenty-four hours. Work was commenced on the duplication of these buildings a month ago by the erection of a dividing fence, so that the new work now in progress will not interfere with that which is completed. This duplication of the plant will, it is expected, be completed before the end of next year.

A VALUABLE DECISION.

The English courts have lately decided that in a case "where a wound is given, which, in the opinion of

competent medical advisers, is dangerous, and the treatment which they adopt is the immediate cause of death, the party who inflicted the wound is criminally responsible." This decision was reached in a case in which it was sought to shift the responsibility, from the person who inflicted the wound, upon the doctors, who sought to save the man's life. Thus the surgeon is free from more than ordinary responsibility in treating such cases. As a result he will be inclined to undertake operations that otherwise he would not, and so give the accused a better chance of avoiding the charge of murder.

GERMAN COOKERY.

A TEUTONIC CHEF SPEAKS OUT FOR THE COOKING OF THE FATHERLAND.

The superintendent of the Liederkrantz, one of the leading German clubs of this city, Mr. L. F. Seniza, has published over his name the following discussion of the German system of preparing food for the table. Mr. Seniza says: The difference between French, Italian and German cooking is in the sauces. To an American the cooking seems of each nationality to be the same, but a foreign epicure can select the difference instantly. The average American, if he likes cooking at all, is apt to affect the French style, because to use a slang phrase of the time it is "the proper caper"—it is considered the fashion. It is astonishing, and also amusing, to a German to see what curious culinary compounds an American will devour if they only have a French name attached to them. The plainest dishes served with a poorly made sauce, are to the American taste transformed into delicious repasts if they are only called by a high-sounding French name. I have witnessed this phenomenon myself at a certain prominent New York club with which I was some years ago, officially connected. The American will tell you that German cooking is too rich, it is too heavy for him; but, mark my words, when he once becomes acquainted with first-class German cooking he will have no other. That Germans, as a nation, appreciate the value of good eating is shown by their cookery schools in the old country. These schools are for young women who want to fit themselves to be housewives. A girl may be a countess or spring from the ranks of the common people, but the customs of the country require that whoever she is she should know how to cook, wash, iron, to clean rooms, to mend the linen and to plant a garden. There is only one difference between a baroness and the child of a tradesman; the latter learns the several duties which I have mentioned in her father's house and from her mother, while the former leaves home to learn the same details of domestic services in a strange house.

An idea of what is a first-class German dinner may be obtained by glancing at the following bill of fare:

Austern.		
Bouillon in Tassen mit Pastetchen,	Gefuellte Muscheln,	
Gestreifter Barsch mit Butter sauce,		
Hamburger Kartoffeln.	Rehruecken mit Rahm sauce,	
Frische Erbsen.		
Westphalischer Schincken mit	Braunschweiger Spargel.	
Roemischer Punsch.		
Rebhuehner mit Salat und compot.		
Ice Cream.		
Obst.	Kaese.	Cafe.

I will make a few comments on this repast for the benefit of the English reader. The dinner commenced with oysters, followed by a soup containing bits of dough, something like puff paste. This is made with a pound of butter to a pound of flour, great care being taken to make it of the proper stiffness before it is put in the oven to bake for about twenty-five minutes. When it is taken from the oven it is cut into pieces representing different figures. The next dish is an entree served in mussel shells. Sometimes it is made of sweet breads, sometimes chicken, or some kind of fish chopped up fine with eggs and different spices. Then comes

striped bass. This is boiled in a liquid containing half water and half vinegar, or some lemon juice instead. By this method of boiling the fish is kept hard. The spices used in the process are pepper, onions, carrots, celery, the roots of parsley, cloves, lemons and a good deal of salt. This is served with the next dish, which is a peculiar kind of imported potato, very small and as yellow as the yolk of an egg. Then we have a saddle of venison with cream sauce. After the venison is skinned and larded it is cooked for about an hour in a very hot oven. The side pieces from the saddle are not roasted, but served with the addition of carrots, onions, celery and other vegetables that may be in season, to make a rich sauce, after it is roasted brown and has added to it some flour and some meat gravy in which it is cooked; before being sent to the table some sour cream is added to it, which, by the way, gives the name—"Rahm Sauce." The fresh peas which follow are bottled in a pot containing a little onion, pepper, salt, a spoonful or two of meat gravy (an ingredient which the cook always keeps in stock), a teaspoonful of flour and a little sugar to give the dish a good flavor. The Westphalia ham which follows is an imported article and is eaten raw. It is cut into very small and thin slices and served with a sauce of which asparagus forms the principal part. The sauce is made in liquid consisting of half asparagus gravy and half meat gravy, mixed with the yolks of eggs, sweet cream, nutmeg, and at the last a dash of vinegar or white wine; to two quarts of sauce two dinner spoonfuls of wine vinegar, or, what would be the same thing, lemon juice, might be added. This is a very fine sauce and has the appearance of mayonnaise, though it has the taste of asparagus. The Roman punch is the kind that is commonly sold in the confectioners, from whom it is generally ordered; maraschino is sometimes added to it to give it a fine taste. The dish which follows this is partridges with salad. The birds are generally baked in an oven, not more than three-quarters of an hour, as otherwise they become too dry, then we put in the pan some carrots, onions, salt; they roast a light brown and are taken out, when some meat gravy is put in the pan. To thicken the gravy, two spoonfuls of corn starch are added and the gravy is cooked not to thicken, but so as to appear brown and clear. This is used for the partridge, which is served with a salad, prepared in the usual fashion, and some kind of preserves. The dinner concludes with ice cream, fruit, cheese and coffee.

There are certain dishes of which the Germans and many Americans, too, are particularly fond, and in the making of which they are adepts. The far-famed and oft-derided sauerkraut is one of them. To make a satisfactory dish of sauerkraut the cabbage sliced for use must be good and hard, the size of the vegetable being immaterial. It must be cut very fine, and if you want a great deal must be put in a barrel with a little salt; but you can make a small quantity in a stone jar. The cabbage must be packed in very hard and tight, so tight that the liquid will remain on top. It is well to let the sauerkraut rest on a few large leaves from outside of the cabbage; leaves should also be placed on top instead of a cloth, as the taste will thus be improved. The cabbage will ferment in two or three weeks, though it may remain in the barrel much longer, and, as a consequence, become more sour. When it is taken out it should be cooked slowly for three hours, and it tastes better if a piece of fresh fat pork is put in, but not enough to spoil the color. The sauerkraut, when fresh made, is of a light color; the older it is the darker colored it becomes. It must be boiled in cold water, not more than half a potful, because if too much water is used the vegetable will lose its color. The fire should be a slow one, so that the juice or gravy will not all boil away. Some like sauerkraut when it is made fresh; others like it when it has been made and warmed over. This last method of serving it accounts for the celerity with which orders for this dish are filled at the German restaurants. The highest or "toniest" style of cooking this dish is to add to it a glass, a half bottle or a bottle of cham-

pagne, according to the quantity of the food, just before it is sent to the table. The flavor of the champagne makes one of the best of German dishes taste better still. The Hungarian goulash which is served so constantly at the down-town restaurants in New York is really nothing more than beef stew, only, of course, it is prepared much more slowly and carefully than the similar dish prepared in the American style. The ingredient in the goulash which has most to do with giving the dish its peculiar flavor is a certain kind of red pepper imported from Hungary. "German cooking," however, is an exceedingly general term. Though there are some dishes, quite a number, which are cooked in substantially the same manner by all Teutons, there is what may be called cooking peculiar to high Germans and low Germans. The last named class of foreigners have dishes prepared after their own fashion, and entirely different from anything in the culinary calendar of the high German cook. They are good dishes, all the same, but suited only, through long generations of custom, to that branch of the great German race. Some people suppose that garlic is made considerable use of in German cooking, but this is not the fact. It is used in the preparation of only a few dishes and then in a very small quantity, but German Hebrews make use of it very largely. Oil is used, especially in boiling fish, which is coated with oil when it is to be cooked in that way. Of course, Germans, like other people, eat according to taste, their fondness for the good things of the table, and their financial ability to gratify the same. The American likes a great variety of food, and the haste with which his cook prepares the dishes for his consumption is in marked contrast to the care and patience bestowed by the German cook or housewife in the preparation of a meal. The ordinary German eats but little for breakfast, a cup of coffee, some Swiss or Limburger cheese, with rye bread or a bit of sausage. He is fond of "pumpernickel" and knows that it is a wholesome food, for scientists have testified that life can be sustained by its use alone. He is fond of vegetables and stews for his dinner, of meat of all kinds, more especially *wiener schnitzel*; he cares very little for pies or puddings, but likes to sip at his principal meal either a schoppen of good Rhine wine or a glass of homely lager beer, as the condition of his pocket-book will justify.

COCOA-NUT BUTTER.

OFFICIAL REPORT ON THE SUBJECT BY CONSUL MONAGHAN, OF MANNHEIM.

German chemists discovered in the cocoa-nut a fatty substitute for butter. The discovery was made by a Dr. Schlunk, practical chemist at Ludwigshafen, just over the Rhine from Mannheim. Shortly after the discovery was made a firm was established in this city under the name of "P. Muller and Sohne," which sunk a large amount of capital in an enterprise having for its object the production of the new article, to which they have given the name of "cocoa-nut butter." The results achieved have more than justified their expectations. The firm is not able to answer its constant demands. Although in existence only one year it employs twenty-five workmen, who get from 25 to 75 cents a day, has a 40 horse-power engine and produces daily 1,000 kilograms of butter, which retails at from 55 to 65 pfennings, or from 13 to 15½ cents per pound, or 25 to 30 cents per kilogram. The nuts are obtained from almost all lands lying in the tropics, especially from the South Sea and Coral islands, Arabia, the coast countries of Africa and South America. Natives in countries where the nuts grow have for a long time used the milk of these nuts instead of food oils. It contains 60 to 70 per cent. of fat and 23 to 25 per cent. of organic substances, of which 9 to 10 per cent. is of albumen. Liebig and Fresenius had already discovered the value of the cocoa-nut oil, of fat, but did not succeed in its production as a substitute for butter. The new butter is of

a clear, whitish color, melts at from 26 to 28 degrees Celsius and contains:

Water.....	0. 008
Mineral stuffs.....	0. 0060
Fat.....	99. 9932

Total.....100. 0000

It hardens at 19 degrees Celsius. It is better adapted however, for the kitchen than for the dining room, that is for cooking purposes, than for the uses to which butter is put on our tables. It is neither disagreeable to the taste nor smell. In a country where real butter runs all the way from 25 to 30 cents per pound, and cocoa-nut butter costs but 15 cents a great future must open up before the latter. At present it is chiefly used in hospitals and other state institutions, but it is also rapidly finding its way into houses or homes where people are too poor to buy butter. The working classes are rapidly taking to it instead of oleomargarines, against which so much had been said in the papers during the last two or three years. The new butter is said to be singularly free from acids and other disturbing elements so often found in butter, especially that made from milk taken from cows diseased with tuberculosis. Here it is estimated that fully 10 per cent. of the milk-giving cows are so troubled. This absence of acids and other matter renders its digestion much easier, hence the preference already shown for the new article by hospitals and such institutions. There are those who do not hesitate to declare this new substitute as healthier and infinitely preferable to the too often bad butter brought on the markets, and not to be named in the same breath with the oleomargarines made too often from the diseased fat of horse and sheep flesh. When it is remembered that Germany has already some fifty factories making oleomargarines and other artificial butters, and that some 180,000 centners are produced annually, it will be readily seen that regular butter will have hard work to hold its own in a hundred uses against its new rivals, and especially so since the oleomargarines and artificial butters of all kinds are placed under severe, careful and watchful State inspectors. It is hoped, however, that no losses, but gains rather, will arise; for, besides the profits resulting from the new substitutes, more meat and milk, as such, will come on the markets, and consequently into use. If with Konig, we assume that the principal nutriment—albumen, fats, and carbon-hydrates—are paid for in the ratio of 5: 3: 1, i. e., a kilogram of albumen costs five times, and a kilogram of fat three times, as much as a kilogram of carbon-hydrate, we arrive by a comparison of the nutritiousness of milk with other articles of diet, at the following results: If we pay for one kilogram of milk 15 pfennings, for a mark we get 21.33 per cent. of nutriment; for 1 kilogram lard (bacon) 172 pfennings, 16.08 per cent.; for 1 kilogram fatty cheese, 162 pfennings, 14.32 per cent.; for 1 kilogram pork, 131 pfennings, 14.01 per cent.; for 1 kilogram veal, 112 pfennings, 10.33 per cent.; for 1 kilogram beef, 128 pfennings, 9.11 per cent.; for 1 kilogram eggs, 200 pfennings, 4.97 per cent. Now, if these facts are once known milk, as an article of diet, will be more in demand, and the quantities no longer needed to make butter will find their way into the families where formerly pure butter was unknown, but where its substitute, cocoa-nut butter has taken fast hold. The principal purpose of this report is to call attention to this new article with a view to intercepting its introduction from abroad as an article of import. If it is what chemists and hospital supervisors say it is, its manufacture in the United States where such vast quantities of butter are consumed, should be undertaken.

A MINT FARM.—B. G. Hotchkiss, the father of peppermint culture, handles nine-tenths of Wayne County's (N. Y.) distillation of oil, which is equivalent to saying that he virtually controls nine-tenths of this world's supply of this essential oil, for Wayne County is practically the only peppermint growing district in the world. St. Joseph's County, Mich., is the only other district where the plant is grown and distilled.

BODILY FORCE.

CALCULATION OF THE ENERGY EXPENDED IN CLIMBING A MOUNTAIN.

The physical energy or force sometimes exerted by the human body under certain conditions is known to be astounding, but no one has ever taken the trouble to put before us that force in figures. Dr. J. Buchheister has now made a most interesting calculation on the "work done" by mountaineers in ascending heights, which will serve as an illustration. Supposing a mountaineer weighing 168 pounds is making the ascent of a summit 7,000 feet high from the point of starting, he has to expend an amount of physical force found by multiplying his weight by the height to be ascended. In the case assumed a weight of 168 pounds + a height of 7,000 feet = 1,176,000 foot-pounds: or, in other words, 1,176,000 pounds have to be lifted 1 foot. This is work performed merely by the muscles of the legs; but, besides this, the contractions of the muscle of the heart have to be taken into account. Its function consists, as is well known, in propelling the blood collecting in the heart, on the one hand, into the arteries, and, on the other, into the lungs. This is effected at an initial velocity of 1½ feet per second, which represents in the case of an adult a work of 4 foot-pounds for each contraction of the heart. The pulsations of an adult are on the average 72 per minute, but in ascending heights, owing to the additional exertion, their number is increased to an extraordinary extent. Assuming, for the sake of simplicity in calculation, only 100 beats of the pulse per minute, this would give 400 foot-pounds per minute, 24,000 foot-pounds per hour, and 120,000 foot-pounds for the five hours supposed to be required in ascending a height of 7,000 feet. The work performed by the muscles in breathing, by the expansion and contraction of the chest, may also be estimated at 4 foot-pounds. Assuming, further, that the number of breathings per minute is on the average only twenty-five, although, as a matter of fact, it will be found to be higher in a mountain ascent lasting five hours, we have to add further work of 30,000 foot-pounds. The total work performed during five hours by a mountaineer consequently amounts to 1,326,000 foot-pounds. In this estimate are not included the physical force spent in overcoming the friction on the ground, the exertions to be made in keeping the body erect at dizzy heights and in dragging heavy boots and foot-irons, nor the loss of muscle power in cutting steps in the ice, not to reckon the work performed in carrying an ice axe, or the physical force exerted in crossing fresh, loose snow. Taking all these conditions into account, Dr. Buchheister arrives at the conclusion that the work done in an ascent of 7,000 feet, lasting five hours, cannot be placed at less than 1,380,000 foot-pounds.

AMERICAN FIGS.—Fig growing is becoming quite successful in the Fresno and Tulare districts (Cal.), the principal varieties being the white Adriatic and San Pedro.

EXPORTING FRUIT.—The sale of California dried fruit in England has rapidly increased during the past few years. About fifteen years ago dried apples were unknown in England, and now they may be seen in the most aristocratic shops in the West End of London. Dark, rich, natural-looking fruit brings good prices.

KANSAS SALT.—The salt industry in Southern Kansas is assuming great proportions. The salt obtained at Wellington is the purest in the world. A dozen great salt plants are already in operation, and in a few years all the salt used for ordinary purposes west of the Mississippi River will probably be supplied by Kansas.

ARTIFICIAL COFFEE.—The Prussian Minister of Industry has published an account from which it seems that the artificial coffee bean, recently discovered on sale, consists principally of lupines, and contains about half a per cent. of caffeine, derived from a slight proportion of kola nuts. The husks contain tannin and some resinous matter.

CALIFORNIA INDUSTRIES.

SOME REFLECTIONS ON THE CLIMATE OF THE GOLDEN STATE.

(Continued.)

The classification of the seasons in California as wet and dry often misleads—for while the latter is all that the term implies, the rainy season has as much of sunshine as of storm, as the records abundantly show. A brief epitome of these seasons and the attendant phenomena will be given. Beginning with the month of October, the signs of a coming change are apparent. The winds, no longer constant and from one quarter, become variable both as to direction and force, or wholly cease. Sudden blasts raise miniature whirlwinds of dust and leaves, which troop over the fields, and the stillness of the night is broken by fitful gusts, and the sudden wail of the trees as the breath of the coming winter sweeps through them. These are the recognized precursors of the season's change, and are usually followed in the first ten days of October by an inch or more of rain; and this usually by weeks of the finest weather. The effect of these first rains is magical. The dust is washed from the foliage, and is laid in the roads and fields. The air has a fresh sparkle and life. The skies are deeper azure, and the soft brown hills seem nearer and fairer than before. It is the Indian summer of the east, but instead of the soft lassitude of the dying year, here it comes with all the freshness and vigor of the new-born spring. If in this and the succeeding months there are further showers, the grass springs up on every hand, and the self-sown grain in all the fields. The hills change their sober russet for a lively green. Wild flowers appear in every sheltered nook. Hyacinths and crocuses bloom in the gardens, and the perfume of the violet is everywhere in the air. In the latter part of November the rainy season is fully established. A coming storm is now heralded by a strong, steady wind, blowing for a day or two from the southeast, usually followed by several days of rain, and these succeeded by days or weeks without a cloud—and thus alternating between occasional storms and frequent sunshine, is the weather from October to April—the rainy season of California. The amount of rain that falls, varies materially with the locality. In San Jose it is from fifteen to twenty inches, while in places not ten miles distant, twice that amount is recorded. During this period there are from thirty to forty days on which more or less rain falls; from fifty to seventy that are cloudy; the rest, bright and pleasant. These estimates will vary with particular seasons; but taking the average of a series of years, it will be found that from October to April one-half the days are cloudless, and fully three-fourths such that any out-door vocation can be carried on without discomfort or inconvenience. Cyclones and wind storms are wholly unknown, and thunder is only heard at rare intervals, and then as a low rumble forty miles away in the mountains. With the month of March the rains are practically over, though showers are expected and hoped for in April. Between the 1st and 10th of May there usually falls from one-half to three-fourths of an inch of rain. Coming as this does in the hay harvest, it is neither beneficial nor welcome. By the 1st of July the surface moisture is taken up and dissipated, and growth dependent upon this ceases. The grasses have ripened their seed, and, self-cured and dry, are the nutritious food of cattle and sheep. The fields of grain are yellow and ripe, and wait but the reaper. Forest trees and shrubs have paused in their growth. This is the vegetable world is the season of rest. This is the winter of the Valley of Santa Clara—winter, but strangely unlike winter elsewhere, for here man has interposed. Here, by art and by labor, he has reversed the processes of nature, and constrained the course of the seasons. In gardens bright with foliage and resplendent with flowers, there is spring in its freshness and beauty; while in orchards teeming with fruits and vineyards

purple with ripening grapes, summer and autumn vie for the supremacy. And so with changing beauty and ceaseless fruition, pass the seasons of this favored clime.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

December.

MEAT.—Beef, mutton, pork, venison, veal.

POULTRY AND GAME.—Chickens, fowls, ducks, geese, turkeys, grouse, capons, hare, rabbit, partridge, pheasants, pea-fowl, Guinea-fowl, snipe, widgeon, wild duck, woodcock.

FISH.—Brill, carp, cod, crabs, perch, salmon, smelts, soles, sprats, tench, turbot, whiting, halibut, sturgeon, oysters.

VEGETABLES.—Jerusalem artichokes, beets, broccoli, cabbage, carrots, celery, endive, winter spinach, eschallots, turnips.

FRUIT.—Apples, oranges, bananas, nuts.

PRACTICAL RECIPES.

BEAN SOUP.—Soak one quart dried white beans over night. In the morning drain, add two quarts water; when it boils pour the water off and add two quarts of fresh boiling water and also about a quarter of a teaspoonful soda. Boil till the beans are very soft, then press them through a sieve and return to kettle; add salt and pepper to taste and a cup of cream, or a cup of milk and a bit of butter. If it is still too thick, thin it a little with water. Serve with slice of toasted bread.

OYSTER FRITTERS.—Drain and chop fine twenty-five or thirty oysters. Beat well two eggs, add to them one cupful sweet milk, two cupfuls flour, in which is sifted one-half teaspoonful baking powder, salt and pepper. Beat this batter until smooth, add the oysters, thoroughly drained of all liquor, mix well and drop by spoonfuls into boiling fat, turn when brown and when done remove with a skimmer.

RICE BLANC MANGE WITH APPLE SAUCE.—Wash a pint of rice thoroughly; scald it with hot water, drain and cool; add to the rice a quart of rich milk, a quarter of a pound of sugar, and a saltspoonful of salt; simmer gently an hour. When done beat it with a wooden spoon. Wet an oval mould with water; press the rice in it, and keep on ice until wanted. Peel, quarter, and core five fine apples; put them in a stew-pan with three half-pints of water, three cloves, two slices of lemon, and half a pound of sugar (dissolve the sugar in the water first); simmer until the apples are tender but will not break when removed from the pan. When done strain carefully and boil down the syrup until quite thick. Now turn out the rice on a glass dish, add the apples as a border, and pour the syrup over all.

POTATO SALAD.—Boil three or four good-sized potatoes without paring. When tender peel and slice them. As soon as they are cold mix with them a very small white onion finely chopped, make a mayonnaise dressing, add to it one or two chopped pickles, if liked: pour this over the potatoes and serve.

SAUSAGES WITH WINE SAUCE.—Stick the sausages well with a fork; place them on a baking-pan in the oven; when they are nearly done take off the fat, add half a wineglassful of good Maderia or Sherry wine, put them back in the oven for a few minutes, and then dish up with the gravy over them.

MUSTARD SAUCE.—Put a teaspoonful mixed mustard into a sauce dish, mix it smooth with half a pint of milk, season to taste with vinegar and salt. In a mo-

ment or so the vinegar will turn the milk to a cream without curdling it. This will keep for a couple of days and is used on fish and cold meats.

WHITE CAKE.—One-quarter pound butter, one and one-half cupfuls powdered sugar, one cupful water, whites of four eggs, two and a half cupfuls sifted flour, two teaspoonfuls Horsford's baking powder, almond or lemon flavoring; beat the butter to a cream, add gradually the sugar, beat well, add alternately, a little at a time, one cupful flour and the water, beat well; then add carefully the well whipped egg whites, stir in lightly the rest of the flour in which the baking powder has been sifted, add the flavoring the last thing and bake in a moderate oven about three-quarters of an hour.

A USEFUL FAN.

AT ONCE A FAN, A MASK AND A TOILET CASE.

Mrs. Kendal, the actress, has invented a fan which is at once a fan and a toilet case, and should a woman be wrecked on a desert island with this fan in her hand she need not be dismayed; she will still possess the means of making herself beautiful. The sticks are of silver and the leaf of black gauze, and in the centre is a black velvet mask, like those Venetians carry at carnival time. This has two eye-holes, and when the fan is lifted to the face it is concealed, but permits one to see everything. Behind this mask can be carried on the duties for which the fan contains conveniences, for on the broad outer stick being turned back a little mirror is revealed, and underneath the other is a place that holds twelve pins, six hairpins, a tiny pair of scissors and a bit of a glove-hook. At the bottom of the fan is a silver box in which is a minute powder puff, and they do say that besides powder Mrs. Kendal carries here a bit of rouge for her ears as well. She never allows paint to touch her milky cheeks, but her ears, under the waves of her chestnut hair, are always rosy. This is an improvement on Ellen Terry's fashion of carrying a puff and red lip-paste in her handkerchief, rolled up in a ball in her pocket, and surreptitiously applying them behind another handkerchief in the midst of conversation. Bernhardt never uses such crude methods. When she makes her appearance socially she is so exquisitely painted that one is only aware of a faint glow in her cheeks. Her powder is applied after her face has been kneaded and rubbed with cream, giving it a waxy softness, and as she is not excitable, her face needs no repair by the end of the evening. The powder over the cream retains its rose-leaf delicacy and the glow has not died away or rubbed off. Mrs. Kendal's patent fan is said to be very handsome without a suggestion of what is hidden under its decoration. Last year Mrs. Kendal patented a ring, which is a circle of gold ending in two tiny knobs of gold. It fits the finger as a bangle does the arm, the white skin showing between the knobs.

ORIGIN OF FRUITS.

HISTORICAL FACTS REGARDING SOME FAMILIAR FRUITS AND VEGETABLES.

What would become of the wanderer in the deserts of Arabia and Barbary if Providence suddenly decreed the extinction of the date palm? Thousands of human beings would inevitably perish, for the inhabitants of Fezzan live wholly upon its saccharine and delicious fruit for nine months of the year. In Egypt, Arabia and Persia it forms the principal food of the people, and a man's wealth is computed by the number of date palms he possesses. When dried the fruit becomes an important commercial staple. Cakes of dates pounded and kneaded until solid enough to be cut with a hatchet supply the provision of the African caravans on their toilsome journey through the sunlit Sahara. The date stones or seeds are roasted as a substitute for cof-

fee, or ground for the sake of their oil, and the residuum given as food to cattle. All are familiar with the manner in which dates in our markets are put up. There are several kinds known to commerce, the most important being "Fard" and "Persian." The former comes principally from Arabia, and the latter, of course, from Persia. Green Peas.—Green peas were not used as food in France until the middle of the sixteenth century. Some years later their edible qualities found approbation in England. Cabbage.—The cabbage was highly esteemed by the Egyptians and was the first "course" of all their repasts. It was no less valued by the Greeks and Romans. Cato pronounced it a remedy for all evils; Erasistratus recommended it as a panacea for paralysis; and Hippocrates as a cure for colic. Asparagus, was anciently cultivated on a very extensive scale; its stems in the Roman gardens weighing three pounds each. The Cherry originally came from Cerasus, in Asia, and came to us through England, and to England through Italy. The Apricot came originally from Armenia. The Plum was anciently cultivated in Damascus, though certain species seem to have been derived from Africa. The Apple came from Asia, according to some authorities; according to others, it is African, and reached Normandy through Spain and France. It is probable that the Baldwin is of American origin. The Orange is traced from the Celestial Empire, China. The Quince came from Ceylon, in Crete, so authorities tell us. The Fig is claimed by the Athenians, as indigenous to the soil of Attica; but it was probably brought from a region further East. The Pomegranate is the fruit of a species of tree belonging to the order *myrtaceæ*. The outside rind is thin but tough, and its juice stains everything it touches with an undefined but indelible blue. The average size is about that of an orange. Within the grains are arranged in longitudinal compartments as compactly as corn on the cob and they closely resemble those of pale red corn, except that they are nearly transparent and very beautiful. They are ripe about the middle of October and remain in good condition all winter.

FOR THE CONSUMERS' BENEFIT.

A PROPOSED ORDINANCE FOR SELLING VEGETABLES IN NEW YORK BY WEIGHT.

The question of selling fruit and vegetables by weight is still being agitated in this city. In the Western States, as on the Pacific coast, that is the only method in use, and its equitable features commend it for universal adoption. The association of retail grocers in New York, has prepared an ordinance and presented it to the Board of Aldermen for passage, and the Board has referred the matter to the Law Committee. The proposed ordinance provides that "every barrel of spinach shall contain not less than forty pounds; every barrel of sprouts not less than fifty pounds; every bushel of potatoes sixty pounds; every bushel of turnips, carrots, parsnips, or beets shall contain fifty pounds; every bushel of sweet potatoes or onions shall contain fifty-five pounds; every bushel of tomatoes shall contain sixty pounds; every bag of string or wax beans shall contain not less than forty pounds; every bag of cranberry or lima beans, or green peas shall contain not less than fifty pounds; every barrel of apples and pears shall contain not less than 135 pounds, and every basket of peaches not less than 25 pounds. And every barrel, bag, box, basket and crate of vegetables and fruit offered or exposed for sale, or sold within the corporate limits of the City of New York, not otherwise provided for in the previous section, shall be labelled stamped or marked outside thereof in plain letters and numerals of at least one inch in size, with the actual and correct measurement or weight of the contents thereof." The ordinance also provides that no person shall offer for sale any vegetables or fruits, except fruits and vegetables which are bought by count, except by weight, or if sold in baskets, bags, boxes, crates or barrels, the actual weight

or measurement of contents thereof, to be marked on each basket, bag, box, crate or barrel in letters or numerals of at least one inch in size. No person shall sell, offer, or expose for sale within the corporate limits of the city of New York any vegetables or fruits in any other way than provided for in the previous sections, except such vegetables and fruits are as now by custom sold by count and not by weight or measure."

Mr. Callanan, Chairman of the Committee, which has charge of pushing the ordinance, said in reference to the matter: "It is a well-known fact that at neither wholesale or retail until very lately (and now only in potatoes) has there been any known quantity of fruits or vegetables offered for sale. A barrel of kale or spinach meant, if the goods were cheap, 40 or 50 pounds; if high, 35 or 40; either could be made to fill a barrel. The same when the consumer went to the grocery store or market, one-half peck could be made to contain five pounds or it could be filled with three; the same with all kinds of fruits and vegetables. The retail grocer could not sell by weight because he could not buy by weight; he had to guess at the measure. Complaints became so loud from every person in the trade that three years ago the Legislature passed a law that every barrel of potatoes sold should contain 172 pounds and every bushel 60 pounds; that is as far as they would go. It is the law to-day. In order to get out of this difficulty the Retail Grocers' Union determined to try and have an ordinance passed regulating their sale by weight only. It was passed last year by the Board of Aldermen and sent to Mayor Hewitt for his signature. He stated that he would sign it, as it was the only fair way to sell fruits and vegetables, but that the retail grocers excepted themselves from its provisions—they wanting to buy by weight and sell by measure. If the ordinance were amended in that respect he would sign it. It was withdrawn to be so amended, but failed for want of time to get it through the Board at its closing session. It has been amended to cover every person in this city offering fruit and vegetables for sale. It is so directly in the interest of the masses of this city and in the interest of fair and honest dealing that we cannot understand why there should be any opposition to it.

PAINTS AND PIGMENTS.

THE PRIMARY FACTS REGARDING PAINT CLEARLY EXPLAINED.

These names are applied to the prepared or unprepared compositions by which wood, stone, and other materials are coated with a preservative surface of oil mixed with an earthy matter, to give it color and consistency; also to the materials used by artists to give color to the surfaces of their pictures. The art of painting, in its primitive state, consists merely in applying such natural, mineral and vegetable colors as were spontaneously yielded, without any vehicle to render them permanent; consequently, they had to be renewed as often as they were rubbed or washed off from the surfaces to which they were applied. The paints now used are nearly all mixed in a liquid vehicle, and are applied in a liquid state. The mixing materials are varied according to the requirements of the work. Thus, for some kinds of decorative work, and for water-color drawings, gum, glue, size, or other adhesive materials dissolved in water are employed; while for the painting of buildings and for oil-paintings, oils of various kinds are used for mixing and thinning colors. Thus, for painting work exposed to the weather, it is found that linseed oil boiled with the sulphates of lead (litharge), or zinc, or with the acetate of lead (sugar of lead), is the best. The preparation of boiled oil is one requiring particular care, as it is desirable to have it bright and clear. Hence the proportions of metallic salts is much varied by different manufacturers, and by some various other ingredients added. The time of boiling and the method of filtering are also much varied. For indoor work, plain linseed oil and spirits

of turpentine are used; if a glossy surface is wished the linseed oil must be in excess; if a dull or flattened surface is the kind desired, then the quantity of turpentine must be increased. Various compounds known as driers are also used in proper amounts. For artists colors, very fine linseed oil is used, unboiled, and in small quantity, and turpentine is used to dilute them. Paints for very rough purposes, such as ship-work, are often mixed with whale oil boiled with white vitriol (acetate of zinc), litharge, and vinegar, and they are diluted with common linseed oil and turpentine. Most of the paints used for ordinary purposes are composed first of the coloring matter, then of a quantity of white lead, which with the oil are worked into paste of the shade required, and afterward thinned down with oil or turpentine, when used. The white lead which forms the basis of most paints, and by itself a color, is a carbonate and oxide of the metal produced by exposing pieces of lead to the action of the steam of acetic acid in beds of fermenting tan. It is the principal white paint used, but is liable to discoloration from the gases contained in impure atmospheres. Other white pigments are prepared from the oxide of zinc, and the carbonate and sulphate of barytes. Pale yellow is made with chromate of strontian, orange yellow with sulphuret of cadmium, while several varieties of this color are produced by chromate of lead, sulphuret of arsenic, or king's yellow, and various native earths in which silica and alumina are combined with oxide of iron. Among these are yellow ochre, Oxford, Roman, stone, orange, Indian and American ochres. Reds are either purely mineral, or they are lakes, *i. e.*, organic colors precipitated on alumina bases. Of the latter, there are madder-lakes, prepared from madder-roots, and carmine lakes prepared from cochineal; of the former, vermilion (bisulphuret of mercury), Indian red (a native oxide of iron), Venetian red (also an oxide of iron), red lead (red oxide of lead, minium). A very beautiful red is used by artists called palladium red; it is formed of ammonio-perchloride of palladium. Blues consist of the artificial ultramarine, and for artists' purposes, of the real ultramarine, also the silicate of cobalt, and for water-colors, indigo and Prussian blue. Greens are either produced by mixtures of yellows and blues, or they are made directly from the phosphates, carbonates acetates, and arsenites of copper, also from the sesquioxide of chromium, and from *terre verte*, a native mineral, consisting of iron, silica, potassa and magnesia. The last two are the best for artists. Browns are numerous and various in their composition. Decomposed peat, burned madder, burned Prussian blue, burned *terre verte*, asphalt, manganese brown, catechu, umber, (which is an oxide of iron with manganese) and mummy, or the asphalt mixed with other matter taken from Egyptian mummies, are among the best known and most used. Blacks are made of lamp-black, bone-black, proude of manganese, and blue-black, which is made of the charcoal of burned vine twigs. In all cases the coloring materials of paints require to be very finely ground, and as many are very precious, great care is required in their preparation, and several forms of mill have been invented for the purpose. The principle on which all are made is to secure the operator from all kinds of dust and exhalations, and to reduce the coloring material, if ground dry, to an impalpable powder, and if mixed with the oil, to a perfectly smooth paste.—*N. E. Grocer.*

SMOKELESS FURNACE.—A new feature in furnace building is to be introduced at the power-house being erected in Alleghany City by the Pleasant Valley Street Railway Company. The novelty consists of a smokeless furnace. It is a contrivance by which the fuel is automatically dumped into the furnaces, causing regular combustion, proper feed of air, and, it is claimed, an economy of 20 per cent. in fuel. Last of all, this very economy in the burning of the fuel makes the furnace practically smokeless. There will be six stokers placed in the new plant, and it is estimated that they will save the labor of four men. This is the first machine of its kind to be put into practical use in this section, although it has been introduced with great success in the west.

BRONCHITIS.

Bronchitis is an inflammation of the mucous membrane of the bronchial tubes. It is one of the most common diseases of our climate and exists either in an acute or a chronic form. Acute bronchitis, like other inflammatory affections of the chest, generally arises as the result of exposure to cold, particularly if accompanied with damp, or of sudden change from a heated to a cool atmosphere. The symptoms vary according to the severity of the attack, and more especially according to the extent to which the inflammatory action spreads in the bronchial tubes. The disease usually manifests itself at first in the form of catarrh, or common cold; but the accompanying feverishness and general constitutional disturbance proclaim the attack to be something more severe, and symptoms denoting the onset of bronchitis soon present themselves. A short, painful, dry cough, accompanied with rapid and wheezing respiration, a feeling of rawness and pain in the throat and behind the breast bone, and of oppression or tightness throughout the chest, mark the early stages of the disease. In some cases, from the first, symptoms of an asthmatic nature greatly aggravate the patient's suffering. After a few days, expectoration begins to come with the cough, at first scanty and viscid or frothy, but soon becoming copious and of a purulent character. In general after free expectoration has been established the more urgent and painful symptoms abate; and while the cough may persist for a length of time, often extending to three or four weeks, in the majority of instances convalescence advances and the patient is ultimately restored to health, although there is not unfrequently left a tendency to a recurrence of the disease. One of the first effects of inflammation upon the bronchial mucous membrane is to cause some degree of swelling which, together with the presence of a tough secretion closely adhering to it, tends to diminish the caliber of the tubes. The respired air, as it passes over this surface, gives rise to the dry or sonorous breath sounds, the coarser being generated in the large, and the finer, or wheezing sounds, in the small divisions of the bronchy. Before long, however, the discharge from the bronchial mucous membrane becomes more abundant and less glutinous, and accumulates in the tubes till dislodged by coughing. The respired air, as it passes through the fluid, causes the moist rales above described. In most instances both moist and dry sounds are heard abundantly in the same case, since different portions of the bronchial tubes are affected at different times in the course of the disease.

Such are briefly the main characteristics presented by an ordinary attack of acute bronchitis running a favorable course. The case is, however, very different when the inflammation spreads into, or when it primarily affects, the minute ramifications of the bronchial tubes which are in immediate relation to the air cells of the lungs, giving rise to that form of the disease known as capillary bronchitis. When this takes place all the symptoms already detailed become greatly intensified and the patient's life is placed in imminent peril in consequence of the interruption to the entrance of air into the lungs, and thus to the due aeration of the blood. The feverishness and the restlessness increase, the cough becomes incessant, the respiration extremely rapid and labored, the nostrils dilating with each effort, and evidence of impending suffocation appears. The surface of the body is pale or dusky, the lips are livid, while breathing becomes increasingly difficult, and is attended with suffocative paroxysms which render the recumbent position impossible. Unless speedy relief is obtained by successful efforts to clear the chest by coughing and expectoration the patient's strength gives way, somnolence and delirium set in, and death ensues. All this may be brought about in the space of a few days, and such cases, particularly among the very young, sometimes prove fatal within forty-eight hours.

In the earlier stages of Bronchitis, the best remedy is Ayer's Cherry Pectoral, a dose or two of which medicine, promptly administered, allays inflammation of the

mucous membrane, promotes expectoration, stops coughing, and immediately arrests the further progress of the disease. For subsequent treatment, small and frequent doses of the Pectoral should be given until every symptom of the complaint is removed—a result that is certain to follow in a very brief time, if the patient is properly cared for and protected from exposure to cold and dampness.

BUSINESS NOTES.

FOR NERVOUS PROSTRATION

Use Horsford's Acid Phosphate. Dr. W. Graeyes, Northfield, Minn., says: "I have used it in cases of nervous prostration; and also in combination with other remedies in indigestion, it has proved as satisfactory as could be expected."

GELATINE.

Mr. James Chalmers, the largest manufacturer of gelatine in the United States, if not in the world, in speaking of gelatine he says that gelatine is rapidly becoming universal as an article of food. When properly made it is delicate, refreshing and to some extent nutritious, but can only be recognized as a luxury. It is easily digested and contains sufficient nutriment to make it a desired article for invalids. As it is so universally used as an article of food either as a jelly or when combined with milk to make ice cream, charlotte, russe, blanc mange, etc., it is of the most vital importance that only the very best gelatine should be used. The increasing demand for gelatine has induced, within a few years, a large number to commence its manufacture which has caused the market to be flooded with cheap and dangerous goods which, were the consumer to realize the danger of using such gelatine, he would not accept it as a gift. It too often occurs that, finding the profits do not meet their expectations, unscrupulous manufacturers resort to purchasing cheap raw material which is decomposed. Such raw material is bought at a low figure and eventually finds its way into the market as gelatine. It is a well-known fact to a practical manufacturer of gelatine that there are no known methods whereby decomposed animal matter can be converted back to its original condition. Hence unscrupulous parties resort to the use of acids to cover such defects and destroy the putrid odor which gelatine made from such material would have when being dissolved in boiling water or milk. All gelatine having a putrid smell or an acid taste should be discarded. The greatest danger to health in using impure gelatine is when it is used as an article of food in conjunction with milk. How often do we hear of late years cases of poisoning from eating ice cream, and what is the reason? Some firms, to swell their profits, buy glue at from 12 to 15 cents per pound, and sell it as gelatine to be used in the manufacture of ice cream, etc. What is the result? Such goods are invariably impregnated with decomposed matter, and as milk is one of the most susceptible articles of food to its surroundings, we find that its coming in contact with an impure gelatine hastens decomposition in the milk, which is then converted by a chemical action into a deadly poison known as tyrotoxin, which without doubt, is the mysterious and deadly agent which has caused so many fatal results after partaking of ice cream. The meagre knowledge which scientists possess of the fabrication and composition of gelatine has very often been the cause of their erroneous conclusions when investigating the cause of sickness or death produced from eating ice cream. Gelatine is well known to be the best cultivating medium of microorganisms. It is simply appalling to think of the danger to health in using gelatine as a food unless it is absolutely pure. There are many varieties of gelatine that look handsome, but are death-dealing agents, some kinds so thoroughly impregnated with acid that they have curdled milk when amalgamated. As it would be tedious and difficult for users of gelatine to

determine the pure from the impure article it is advisable if they appreciate health, to use no gelatine but that which is branded by reputable manufacturers. A wise and safe method for those using gelatine in combination with milk, especially in making ice cream (for therein lies the greatest danger), is to make it themselves. Buy nothing but the best gelatine and other ingredients, which cost but a trifle more than that which is dangerous, thereby compelling, to some extent at least, unscrupulous parties to keep and sell nothing but pure, reliable goods which are indispensable to those who value their health. It is evident that the lesson to be drawn from this is to be sure of getting good gelatine buy only Chalmers.

ROCK AND RYE.

The celebrated prescription of Rock and Rye, or white rock candy and rye whiskey, seems to have originated with the Hon. Ellis B. Schnabel, a member of Congress from Pennsylvania, and was first published in the New York *Sun* several years ago. Mr. Schnabel claimed that he himself had been in the last stages of consumption and had been cured by this remedy. It is made as follows: Take five pounds of pure white rock candy and dissolve it in a gallon of old rye whiskey—the older the better. The whiskey must be distilled in the old-fashioned way, with a copper worm. Always get the pure white rock candy. The clear white rock is pure crystallized sugar, and saccharine matter, you know, is the most nourishing of all substances. Put your five pounds of white rock candy into a gallon of whiskey, and set it on your table. Let it remain there until the candy dissolves. A week may go by before it is absorbed by the whiskey. Whenever you pass the demijohn, stop and give it a good shaking, and have your wife and daughter or the servants do the same. In this way it will sooner dissolve, and you will find yourself the owner of a cordial, soothing and delightful, as far superior to cod liver oil as maraschino to catnip tea. Mr. Schnabel's theory of the pathology of consumption is peculiar, and not worth entering into. It will suffice to say that he claims that the condition of the lungs is similar to that of chronic ulceration, and that the rock and rye converts it into an acute inflammation, when the alcohol by oxydizing and the saccharine matter by building up the tissues will produce a cure. Be that as it may, cases are cited where this course of treatment has stopped the cough, built up the system, and the patient has rapidly gained flesh and become well. The directions for taking the mixture are: Take a sherry wine glassful on going to bed. On waking in the morning take two-thirds as much on an empty stomach. Carry a flask in your pocket, and take a spoonful a half dozen times a day, whenever you think of it. Your object should be to keep your stomach continuously employed in taking up rich and nourishing matter. The cordial will check cold night sweats, and the patient will secure long and refreshing sleep. All lung fever will disappear. You will feel no more pain in your chest; may finally become so enraptured with the elixir that you will find it difficult to drop it when its use is no longer necessary for the preservation of your health. Now, as to your diet while feeding on this elixir. You must avoid all vinegars, pickles, sour wines, malt drinks and salt provisions of all kinds. Touch fresh pork under no circumstances. Acids and fresh pork promote ulceration, and increase the very difficulty you are trying to cure. No coffee should be used, for it fevers the blood and neutralizes the agency of the saccharine matter. Drink black tea. Eat roast beef rare, broiled steaks, mutton chops well done, toasted bread, and all kinds of vegetables. One of the best articles of food is a rum omelette, made exclusively of the yolks of eggs. There is no nourishment in the white of an egg. The object is to enrich the blood. The blood is the great agent to build up weak and dilapidated constitutions, and it must be furnished with the necessary materials to reconstruct them. This treatment and diet so enriches it that it is bound to win in the end.

A Tonic

Horsford's Acid Phosphate.

A most excellent and agreeable tonic and appetizer. It nourishes and invigorates the tired brain and body, imparts renewed energy and vitality, and enlivens the functions.

Dr. H. K. Clarke, Geneva, N. Y., says:

"It has proved of great value for its tonic and revivifying influence."

Dr. J. H. Stedman, West Brattleboro, Vt., says:

"Best nerve tonic I ever used."

DESCRIPTIVE PAMPHLET FREE.

RUMFORD CHEMICAL WORKS,

PROVIDENCE, R. I.

Beware of Substitutes and Imitations.

CAUTION.—Be sure the word "Horsford's" is PRINTED on the label. All others are spurious. Never sold in bulk.

Fine Table Wines

From our Celebrated
Orleans
Vineyard.

Charles H. Harbath & Co.
Producers of the
ECLIPSE
CHAMPAGNE,
530 Washington St.
SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

TO REMOVE PAINT.—Four pounds of Irish moss, 3 pounds of methylated spirit, and 3 pounds of fuller's earth are mixed with 30 pounds of water, the whole boiled, and a solution of 16 pounds of caustic soda and 16 pounds of caustic potash dissolved in 28 pounds of water added, after which the product is stirred until it is cold and has solidified to a brownish gelatinous mass. The proportions of the ingredients may be varied. The compound is used by applying it to the painted surface with a brush, allowing it to remain thus for twenty minutes to one hour, and then washing it off together with the paint that has been disintegrated by its action.

SAWDUST FILTERS.—Carbonized sawdust, saturated with certain chemical compounds, has recently been introduced into Germany as a material for filtering and at the same time discoloring liquids. Sawdust treated first with alum, and then with sodium carbonate, becomes impregnated with a precipitated aluminum hydrate which adheres firmly to it. After being well washed with a solution of barium chloride until no precipitate is given, the sodium sulphate simultaneously produced is entirely removed, and then prepared sawdust is ready for use. Colored liquids filtered with it have their color entirely removed by the formation of flakes of the aluminum hydrate present in the filtering material. A sawdust similarly saturated with the barium chloride is used for filtering liquids, from which it is required to remove calcium sulphate, and for the removal of calcium carbonate from a solution a sawdust that has been treated with magnesium sulphate and caustic soda is employed.

EXPENSIVE BRICKS.—Hollow, cast-iron bricks, if we may so term them, says the *Engineering and Building Record*, form the subject of a recent German patent granted to August Bockel, of Erfurt. As the name implies, they are made of regular form and size, the walls being 0.12 inches thick. No mortar or other binding material is to enter into their use, the fastening being effected as follows: The upper and lower sides of the bricks are provided with grooves and projecting ribs which fit into one another. There are, further, two large circular openings in the upper side of each brick, arranged to receive properly formed projections on the lower side of the brick above. One of these projections is hook-shaped, so as to give a more secure hold. A fluid is applied to the surfaces of the bricks with a brush, to make the joints air and water-tight. The non-conducting air spaces in the bricks, and the ease with which they may be put together and taken apart without injuring them, are cited as special advantages. The question of cost is not considered.

REPRODUCTION OF BACTERIA.—As regards the reproduction of the bacteria, many of them can double their numbers every hour when placed in the best conditions for their activity. In such circumstances, then, a single bacterium would, in twenty-four hours, produce no less than 16,777,220. At the end of forty-eight hours the offspring would amount to 281,500,000,000, and would fill a half pint measure—all produced in two days from a single germ measuring $\frac{1}{16000}$ of an inch. Fortunately, however, bacteria can rarely so propagate themselves; they meet with all sorts of drawbacks, and thus in spite of their enormous fertility the survivors are in a general way only enough to keep up a fair balance in nature. The diseases producing bacteria, however, have no claim upon our forbearance, and in these the enormous fecundity we cannot too closely contemplate. Some, like the bacteria of tuberculosis and glanders, propagate themselves slowly; but the great majority of the bacteria causing animal plagues will, in favorable cases, double their numbers hourly.—*Prof. Law.*

SOUTHERN PROGRESS.—The *Manufacturers' Record's* resume of new Southern industries for the first nine months of the present year shows a total of 4,053, as compared with 2,942 in 1888, 2,594 in 1887, and 1,175 in 1886, as currently recorded in the columns of that publication. These figures include 825 saw, planing and shingle mills, sash and door, stove or other wood-working enterprises, as compared with 626 in 1888, 512 in 1887 and 362 in 1886. There are also reported 10 agricultural implement factories, 61 furniture factories, and 42 carriage and wagon factories. Adding these to the mills and other wood-working establishments, a total of 938 new enterprises in nine months is given, as compared with 626 dependent upon mineral resources, including mining and quarrying, iron furnaces, machine shops and foundries, stove foundries, rolling mills, miscellaneous iron works, pipe works, etc. Flour mills, cotton mills, cotton compresses, cotton seed oil and canning factories make up a total of 405. It will thus be seen that from an industrial standpoint forestry products and manufactures therefrom greatly overshadow all other resources in the South in rapidity of development.

JOHNSON LOCKE MER. CO.
Shipping & Commission Merchants,
SAN FRANCISCO, CAL.
Agency at **PORTLAND, ORE.** Agency at **LOS ANGELES, CAL.**

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins, Walnuts, Almonds, Dried Grapes, Borax, Barley, Mustard Seed, Salmon, Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

Robinson's Sura Cura
SURE CURE
FOR
RHEUMATISM
And NEURALGIA,
 And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.
R. W. ROBINSON & SON,
 184 Greenwich Street,
 NEW YORK.

LEA & PERRINS'

SAUCE

(THE WORCESTERSHIRE)

Imparts the most delicious taste and zest to

EXTRACT of a LETTER from a MEDICAL GEN- TLEMAN at Mad- ras, to his brother at WORCESTER, May, 1851.

"Tell LEA & PERRINS' that their sauce is highly esteemed in India, and is in my opinion, the most palatable, as well as the most whole- some sauce that is made."



SOUPS,
GRAVIES,
FISH,
HOT & COLD
MEATS,
GAME,
WELSH-
RAREBITS,
&c.

Lea & Perrins

Signature is on every bottle of the genuine and original.
JOHN DUNCAN'S SONS, NEW YORK.

PICTURES.

All kinds of small pictures enlarged to life-size.

FINE PORTRAITS IN CRAYON,
PASTEL, WATER-COLOR,
OIL, OR INDIA-INK,
at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
 47 West Twenty-Second St., New York.



TWELFTH SEASON.

MRS. McELRATH'S

Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams, Pickles and Mince Meat.

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circu- lars, with references and prices, sent on application. Address,

Mrs. SARAH S. McELRATH,

393 Degraw Street, Brooklyn, N. Y.

WHOOPING COUGH CURED

Or Prevented by Page's Vaporizer and Cresolene.



We have abundant testimony that Cresolene vaporized in a closed room is an almost infallible remedy for **Whooping Cough**, for which distressing malady no other assured remedy is known to us. A cure usually effected in five or six days, at a trifling expense and but very little trouble. It is also exceedingly efficient in Asthma, Croup, Catarrh, Diphtheria, Influenza and Scarlet Fever. It is a safeguard against the spread of contagion.

Vaporizer complete, including a bottle of Cresolene, \$1.50. Ask your druggist for it.

W. H. SCHIEFFELIN & CO.,

SOLE AGENTS,

170 & 172 William Street, New York.

LACTOPEPTINE.

The most important remedial agent ever presented to the Profession for Dyspepsia, Vomiting in Pregnancy, Cholera Infantum, Constipation, and all Diseases arising from imperfect nutrition.

Lactopeptine precisely represents in composition the natural digestive juices of the Stomach, Pancreas and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism.

CAUTION

We regret that we are compelled to caution the profession in prescribing Lactopeptine, but very careful investigation has proven to us clearly the necessity of it.

Substitution of cheap and worthless compounds are being made in many cases where Lactopeptine is prescribed.

Lactopeptine is always UNIFORM, and its effects are SPECIFIC, and no one has ever been able to imitate its digestive value. If you do not obtain positive results when you prescribe Lactopeptine, you can be sure that some substitution has been made, and in such cases it may be necessary for the physician to prescribe Lactopeptine in the original ounce package to insure certainty of obtaining the genuine article. We can confidently make this assertion, knowing the scrupulous uniformity in digestive value of every ounce of Lactopeptine.

Lactopeptine has always been kept strictly in the hands of the Medical Profession, never having been admitted in any publications but Medical Journals. It is prescribed by the most intelligent and educated physicians in all parts of the world, and there are but few physicians who have ever used Lactopeptine that will not agree with the late Prof. L. P. Yandell, when he says: "Lactopeptine is one of the certainties in medicine, and in this respect ranks with Quinine."

In the various forms of Dyspepsia, in vomiting in Pregnancy, and in Mal-nutrition of children, there is no known remedy so positive in results.

P. O. Box 1574. **THE NEW YORK PHARMACAL ASSOCIATION, NEW YORK.**

TRADE MARKS.

We have had long experience in the matter of Trade Marks, and protection against Infringements and Imitations. Any further information may be obtained by addressing the

AMERICAN ANALYST,
19 PARK PLACE, NEW YORK.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

Good Agents

To obtain Subscriptions for

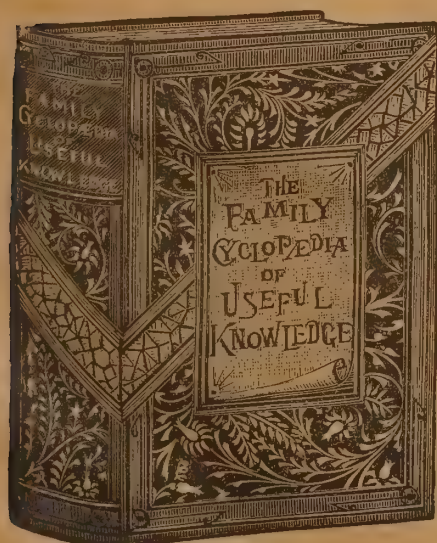
AMERICAN * ANALYST

WANTED ON LIBERAL TERMS.

A VALUABLE BOOK FOR NOTHING.

The AMERICAN ANALYST will send to any person who will forward a New Subscription with One Dollar, a copy of

THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE.



This is unquestionably one of the most interesting, entertaining and instructive books ever published. It is a universal educator for every member of the family circle, filled with useful information from beginning to end, and this information is given in such an attractive and pleasing way that the book is quite as entertaining as it is instructive. It treats of hundreds of subjects of which no man, woman or child who seeks to be well informed can afford to be ignorant, yet of which the masses of people are entirely unlearned. It contains the cream or substance of a dozen ordinary volumes, and is one of the most valuable and useful books a family can have in the house. No living man is so well informed that he may not learn from it. It is a book for the masses, for old and young, rich and poor, and will be read with pleasure and profit by all. It will likewise be found of great value as a work of reference. The book is profusely and elegantly illustrated, and is conveniently divided into departments, as follows: **Biography, History, Natural History, Travels, Manners and Customs, Etc.; The World Illustrated, Useful Arts and Manufactures, Trees, Plants, Fruits, Etc.; Great Inventions, Mining, Wonders of the Sea, Familiar Science, Law for the Masses, Statistical and Miscellaneous.** All the above subjects are fully and ably treated in this valuable book. It is a vast storehouse of useful and entertaining knowledge—unquestionably one of the best and most valuable books ever published in any land or language. No cyclopædia ever heretofore published at twice the cost is to be compared with this book in point of artistic make-up, beauty, and excellence of illustration, and quality of contents. As a holiday or birthday present for any one, nothing more appropriate or acceptable could possibly be selected. THE FAMILY CYCLOPÆDIA OF USEFUL KNOWLEDGE is a large and handsome book of 544 pages, 12mo, printed upon fine paper and elegantly bound in cloth, embellished with artistic designs in black and gold. It contains **Two Hundred and Seventy-three Beautiful Illustrations**, the original cost of which was over \$5,000. The book will be sent by mail, post-paid, to any person sending a **New Subscription with One Dollar.** It is as large and handsomely gotten up as books usually sold at \$1.50 and \$2.00, and in the quality of its contents is worth a dozen ordinary volumes.

ADDRESS ANALYST PUBLISHING CO.,

—19 PARK PLACE, NEW YORK.—

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

It is the Original and Genuine.

Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

DELICIOUS

SWIFT'S

CHOICE

Chicago Pressed Beef

AND

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,
UNION STOCK YARDS,
CHICAGO, ILLS.



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.
STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



For Sleeplessness, Exhaustion, Nervousness, Headache, Malaria, Paralysis, Neuralgia, &c., &c. **\$1.00.** Every Druggist.

AMERICAN ANALYST CLUB RATES.

	Regular Price.	Price Including American Analyst.		Regular Price.	Price Including American Analyst.
American Rural Home.....	\$1 00	\$1 50	Harper's Weekly.....	\$4 00	\$4 00
American Agriculturist.....	1 50	1 60	Harper's Monthly.....	4 00	3 60
Art Amateur.....	3 50	4 00	Household.....	1 10	1 35
Arthur's Home Magazine.....	1 50	2 00	Housekeeper.....	1 00	1 25
Art Interchange.....	3 00	3 25	Ladies' Home Journal, Philadelphia.....	1 00	1 50
Babyhood.....	1 50	1 60	Ledger, N. Y.....	3 00	3 00
Ballou's Magazine.....	1 50	1 75	Lippincott's Magazine.....	3 00	2 50
Cassell's Family Magazine.....	1 50	1 75	National Tribune, Washington.....	1 00	1 50
Century.....	4 00	4 25	New York Weekly.....	3 00	3 00
Christian Herald, N. Y.....	1 50	1 50	Our Day, Boston.....	3 00	2 50
Christian Union.....	3 00	3 10	Our Little Ones and Nursery.....	1 50	1 75
Cosmopolitan, N. Y.....	2 40	2 50	Outing, N. Y.....	3 00	3 00
Cottage Hearth.....	1 50	1 50	Peck's Sun.....	2 00	2 25
Country Gentleman.....	2 50	2 50	Peterson's Magazine.....	2 00	2 00
Current Literature.....	3 00	3 00	Popular Science Monthly.....	5 00	4 75
Demorest's Magazine.....	2 00	2 10	Puck.....	5 00	4 50
Family Story Paper.....	3 00	3 00	Rural New Yorker.....	2 00	2 30
Farm and Fireside.....	50	1 00	Saturday Night, Philadelphia.....	3 00	3 00
Fireside Companion.....	3 00	3 00	Saturday Evening Post, Philadelphia.....	2 00	2 00
Forum.....	5 00	5 00	Scientific American.....	3 00	3 25
Frank Leslie's Illustrated Newspaper.....	4 00	4 00	Scribner's Magazine.....	3 00	3 00
Frank Leslie's Popular Monthly.....	3 00	3 00	Vick's Illustrated Monthly.....	1 25	1 60
Godey's Lady's Book.....	2 00	2 25	Wide Awake.....	2 40	2 60
Golden Days.....	3 00	3 00	Yankee Blade.....	5 00	1 50
Good Housekeeping.....	2 50	3 00	Young Ladies' Journal, English Edition.....	4 00	3 50
Harper's Bazar.....	4 00	4 00	Youth's Companion.....	1 85	2 25
Harper's Young People.....	2 00	2 25			

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.



BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked from the Select Tea Gardens of China and Japan**, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40cts. Excellent Family Teas 50 & 60cts. Very Best 65 to 90cts. per lb. Special—We will send by mail a **Trial Order** of 3 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy, Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.

NATRONA BI-CARBONATE OF SODA.

ABSOLUTELY PURE.



The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz., kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making BI-CARB. SODA from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB.; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt and other impurities, render NATRONA BI-CARB. NEARLY TASTELESS, and being bolted through the finest bolting-cloth, insures the finest stage of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

The NATRONA BI-CARB. Soda is kept in stock by almost every wholesale druggist and grocer throughout the United States, of whom it may be ordered.

Natrona Bi-Carb. Soda is unequalled by any other brand of English or American Manufacture.

PENNA. SALT MANUFACTURING CO.,
NATRONA CHEMICAL WORKS. PHILADELPHIA, PA.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,
DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

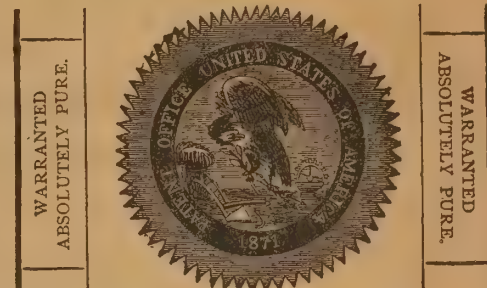
PARK & TILFORD, and ACKER, MERRALL & CONDIT.

Established in London, 1831.

DEAN'S PATENT

ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

— FOR —

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

TO THE CONSUMER!

"PAVONIA BEER"

MANUFACTURED FROM THE

Best Grade of Imported Malt and Hops.

ENTIRELY FREE FROM THE PUNGENT TASTE
OF THE ORDINARY BEERS.

It commends itself to the Consumer as a pure, wholesome and delicate Beer; can be safely used by Invalids.

Specify Export Pavonia Beer, White Label, when ordering

OTIS S. NEALE,

HOWARD STREET,

BOSTON, MASS.

SEE NEW

CLUB RATES

WITH OTHER

JOURNALS,

ON PAGE 610.

DR. PRICE'S CREAM BAKING POWDER

**MOST PERFECT MADE.
NEW YORK'S GREAT CHEMIST.**

This is to certify that I have analyzed Dr. Price's Cream Baking Powder. I find it composed of pure materials, compounded on correct scientific principles. The ingredients are accurately and scientifically proportioned. Hence, bread or biscuits prepared with it are better suited for digestion.

R. OGDEN DOREMUS, M.D., LL.D.,
Prof. Chemistry and Toxicology in the New York Bellevue
Hospital Medical College. Prof. Chemistry
and Physics in the College of the
City of New York.



[SOLID.]

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS
BOUILLON,
And strongly endorsed
by the Medical
Profession for
INVALID'S BEEF TEA



[FLUID.]

See Clubbing Rates of AMERICAN ANALYST with other Journals, and study their advantages.

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

"BILLET"

are

Carefully Selected
French Sardines,
Packed in Choicest Olive Oil.

AT ALL LEADING GROCERS.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S
Transparent Gelatine.
PURITY—STRENGTH.

Best for Family Use.
Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.

Subscriptions \$1 per year. Now is the time
to subscribe.

GLENN'S SULPHUR SOAP.

Physicians know the great value of the local use of sulphur in the Treatment of Diseases of the Skin.

Glenn's Sulphur Soap is the Original and Best combination of its kind, and the one now generally in use. For sale by All Druggists.

Beware of Counterfeits.

Wholesale Depot,

C. N. CRITTENTON,
115 FULTON STREET,
NEW YORK.

Samples of above Soaps SENT FREE on application.

The Standard of Excellence.

KINGSFORD'S
OSWEGO

Pure and Silver Gloss



STARCH

KINGSFORD'S

OSWEGO CORN STARCH

FOR

Puddings, Custards, Blanc-Mange, Etc.

THE PERFECTION OF QUALITY.

WILL PLEASE YOU EVERY TIME.

Always ask your Grocer for these goods.

THE AMERICAN ANALYST.

INDEX OF CONTENTS OF VOL. V.

January to December, 1889.

Aboriginal Mining.....	556	Chef, The, and His Domain.....	387	Electrical Appliances.....	374	Insect Lore.....	55
Aches of Head and Heart.....	281	Chemistry's Triumphs.....	194	Electrical Piano Playing.....	595	Insensible Sensations.....	2
A Contemptible Fraud.....	103	Children's Eyes.....	507	Electric Dentistry.....	247	Insomnia.....	292, 446
Acrophobia.....	184	CIGARETTE Abomination.....	39, 458, 508	Electro-Plating.....	110	Intemperate Temperance.....	17
A Curious Clock.....	79	Restrictions.....	65	Electricity.....	544	Is Life Insurance Safe?.....	58
Adulterated Pepper.....	267	The Deadly.....	89, 175	English Servants.....	159	Its English—You Know.....	323
ADULTERATION in England.....	160	Cigar Makers in New York.....	39	Ether, Hypothesis.....	41	Japanese Hotels.....	53
In Europe.....	566, 578	CITY Hygiene.....	494	Eucalyptus, The.....	339	Jelly Cheap.....	206
In Michigan.....	149	of the Future.—Complete Story.....	542	Evolution of Table Cookery.....	327		
In New Jersey.....	158, 173	Perils.....	244	Exotic Fruits.....	534		
Of Lard.....	220	Clarets, Famous.....	398	Fainting.....	147	Kangaroo in Commerce.....	412
A Human Magnet.....	591	Cleaning Clothes.....	279	Faith Follies.....	471, 483, 495, 594	Kansas Beef.....	123
Aids to Sight.....	52	Cleanliness.....	136	Familiar Remedies.....	268	Keeping Time.....	174
Air and Light.....	54	Clothes and their Chemistry.....	386	Fashionable Tea.....	533	Kelgum.....	340
A Linguistic Complication.....	125	Cocoa-nut Butter.....	603	Fashion's Fancies.....	558	Kitchen History.....	327
Ambergris and Amber.....	534	Coal.....	423	Foibles.....	125	Knickerbocker New Year's Day.....	17
America.....	65	COFFEE Deceptions.....	42	Fat Poultry.....	45	Knob Celery.....	51
AMERICAN Beef Tea.....	162	Imitations.....	148	Feeding the Sea Sick.....	135	Labor's Advice.....	304
Homes.....	569	Colds and Catarrhs.....	103	Fifty Years of Progress.....	246	Lard and Leviticus.....	50
Lard.....	244, 196	and Clothes.....	173	Figs as Food.....	53	Late Suppers.....	100
Nobility.....	375	Color Contrasts.....	64	Filtering Drinking Water.....	230, 242, 254, 266	Left Leggedness.....	520
Raisins.....	558	CONDENSED Food.....	305	Fire, What is a.....	375	Length of Life.....	55
Wool.....	582	Milk.....	221	Fish Fancies.....	124	Life and Sunlight.....	290
Americans, The.....	531	Conspirators Foiled.....	77	for Food.....	207	Life's Risks.....	223
Analyst Weekly.....	43	Contagious Consumption.....	350	Flexible Stone.....	43	“Limited”.....	208
Ancient Table Manners.....	78	COOKING and Ventilation.....	339	Flowers for Dinner.....	257	LOCAL INSPECTION Fizzle.....	495
Ancient Science.....	592	in Emergencies.....	206	Flying Fish.....	174	Laws Unconstitutional.....	326
An Evil and Foolish Law.....	111	Cooking Reform.....	618	Food Adulterations.....	123	Lost Instincts.....	567
Another Wonder.....	43	Corpulence, Cure for.....	78	Poison in.....	27	Lustre of Metals.....	102
Antiquity of Cheese.....	42	Correspondence.....	41, 52, 77, 135, 183, 219, 424, 471, 522, 532, 555, 592	Preservatives.....	58	Luxuries of Service.....	352
Arsenical Poisoning.....	29, 304	Costly Drugs.....	592	For the Consumers' Benefit.....	605	Macaroni.....	74
ARTIFICIAL Coffee.....	53	Cotton Seed and its Uses.....	39	Frauds on Invalids.....	571	Malaria.....	221
Silk.....	292	Counterfeit Presentments.....	160	Fraudulent Legislation.....	184	Malt.....	556
Wine.....	352	Craze vs. Culture.....	509	Fretting.....	42	Man's Progress.....	279
A Sensible Measure.....	534	Crushing a Counterfeit.....	107	French Frauds.....	148	Maxims of Brillat-Savarin.....	246
A Soft Voice.....	136	Culture and Muscle.....	591	FRUIT or Meat.....	196	Meals, Ready Made.....	545
Asparagus vs. Grass.....	316	Currants Imported.....	246	Dried To Cook.....	17	MEAT for Food.....	375
Atoms.....	508	Dairy Science.....	220	for Food.....	434	Products of America.—Illustrated.....	350
A Useful Fan.....	604	Darwin Doubted.....	484	and Vegetables.....	338	Medical Superstitions.....	87
		DEADLY Bath.....	423	Geological Mysteries.....	543	METROPOLITAN Mortality.....	363
Baking Powders.....	302	Cigarette, The.....	531	German Cookery.....	602	Prices.....	231
Banana Culture.....	197	Dew and Frost.....	56	Germs in Water.....	293	Microbes in a Trunk.....	471
BANANAS and Plantains.....	4	Diamond, The.....	533	Girls as Athletes.....	581	Micro-Organisms.....	196, 291, 303, 314
How to Eat.....	173	DIETARY Follies.....	31	Glossary of Microbes.....	18	Miles of Wines.....	148
BEEF Inspection Law Defeated.....	113	Vagaries.....	52	Gluttonous Wager.....	27	MILK in Health.....	280
Local Inspectors of.....	174	Diet for Dyspepsia.....	244	Glycerine, Its Uses.....	78	Natural and Condensed.....	232
What it Costs.....	18	DINNER Absurdities.....	388	Gout, How to Acquire.....	79	Watered.....	218
Beer at Home.....	400	Manners.....	446	Grape Culture in California.....	40	Mind and Weight.....	78
Beet Sugar.....	447, 557	Dipsomania.....	520	Green and Red.....	484	Mineral Wax.....	64
Bicarbonate of Soda.....	422	Distilling and Distilleries.....	570	Harmless Agitators.....	87	Minuet, The.....	126
Bison, the.....	557	Domestic Dietetics, 5, 20, 29, 44, 57, 65, 79, 89, 103, 113, 127, 137, 151, 161, 175, 185, 195, 208, 222, 233, 246, 257, 269, 282, 293, 306, 316, 329, 340, 364, 376, 388, 400, 412, 424, 436, 448, 460, 472, 484, 496, 508, 522, 533, 545, 558, 569, 582, 585, 593, 604, 618		Hat Etiquette.....	482	Modern Explosives.....	422
Blood Oranges.....	207	Do You Catch the Idea?.....	161	HEALTH and Altitude.....	158	Monotony and Nerves.....	471
Boatly Force.....	603	Dream Vagaries.....	150	Hints.....	350	Mood, a Perplexing.....	171
Bogus Eggs.....	19	DRESSED Beef.—No. 1.....	568	Heart Failure.....	305	Mumm Squelched.....	326, 340
Bonnets and Piety.....	172	Beef.—No. 2.....	580	Heat and Heads.....	51	Musical Instruments.....	545
Book Reviews.....	136, 208, 245	Beef.—No. 3.....	590	Hippophagists.....	136	National vs. State Beef Inspection.....	75
Boston Beef.....	196	Beef Trade.....	15	HOME, A Perfect.....	17	Natural Gas.....	57
Boycotting Americans.....	172	Beef Triumphs.....	326	Seeker, The.....	88	Nature's Forces.....	195
Boys' Appetites.....	291	Beef War.....	99	Ventilation.....	78	Nervousness.....	521
Bracelets.....	593	Beef Wins.....	410	Hor Air Baths.....	206	Nerve Rest.....	338
BRAINS in Business.....	268	Dried Grapes.....	410	Weather.....	399	New Books.....	400, 520, 616
In Trade.....	281	Duration of Life.....	278	Human Food.....	219	Nitrogen, Its Properties.....	76
Bread, The Chemistry of.....	3	Dust in the House.....	77	Humbugs, Spiritualistic.....	44	Nothing Lost.....	19
Breathing.....	182	Dances and Disease.....	64	Humidity and Sunstroke.....	423	Novelties of the Season.....	174
Brie Cheese.....	18	Easter Eggs.....	195	Hygiene and Hysterics.....	64	Nuisances in Law.....	579
Brown-Sequard's Elixir.....	399	Festivities.....	170	Hyperborean Heat.....	375	Nutmegs.....	362
Business Notices.....	330	Edison's Inventions.....	459	Hypnotic Treatment.....	123		
		Editorial, 1, 13, 25, 37, 49, 61, 73, 85, 97, 109, 121, 133, 145, 157, 169, 181, 193, 205, 217, 229, 241, 253, 263, 273, 301, 313, 325, 337, 349, 361, 373, 385, 397, 409, 421, 433, 445, 457, 469, 481, 493, 505, 517, 529, 541, 553, 565, 577, 589, 601, 617		Ice Cream and Arsenic.....	135	Ocean Risks.....	305
CALIFORNIA Industries, 521, 544, 556, 568, 592, 604		Egg Lore.....	184, 245	Water.....	207	Ocean Luxuries.....	618
Wines Made in New York.....	532			Imitation Goods.....	223	OLD Madeira.....	411
Canadian Adulterations.....	269			Immaterial Forces.....	122	New York.....	435
Canned Goods for the Tropics.....	136			Imported Salts.....	555	OLEMARGARINE.....	518
Care of the House.....	102			Important to Electricians.....	41	How Made.....	134
Carving.....	3			Impossible Gold.....	183	OLIVE Oil.....	256
Caviare.....	376			Impure Water.....	8	Oil Imitations.....	64
Celluloid Products.....	315			Index to Volume V.....	615	OLIVES.....	18
Champagne.....	256, 282, 532			India-Rubber Pavements.....	64	Pickling.....	29
Charity and Red Tape.....	124			Infection by Contact.....	278	Open Letter to Mr. Mumm.....	327
Charms of Celibacy.....	98			Ink Showers.....	54	Opium Smoking.....	103
Chartreuse.....	495					Orange Culture.....	112
CHEAP and Poor.....	196					Origin of Fruits.....	604
Beef.....	232						
Catering.....	233						

D. & P. ROCK CANDY.

Dissolved in Rye Whiskey, (5 lbs. Rock Candy in 1 gallon Whiskey), cures Coughs, Colds and Consumption. Read "A Lecture in a Horse Car," published in the New York Sun, containing an account of the celebrated case of the Hon. Ellis B. Schnable, who, while in the last stages of consumption, was entirely cured by the liberal use of Rock Candy and Rye Whiskey.

D. & P. Rock Candy in 5-lb. boxes is sold by leading confectioners, druggists, grocers and wine merchants. Not genuine unless the letters D. & P. are on the label. Full directions in every box. Send for recipe.

DRYDEN & PALMER,

19 HUDSON STREET, NEW YORK.

Outlandish Foods.....	338
Oysters as Food.....	184
Pacific Inquietude.....	470
Pachydermatous Toughness.....	364
Paints and Pigments.....	605
Plain, Measuring.....	231
Peanuts.....	388
Pickles, Good and Bad.....	518
Pig and Pone.....	254
Pigments.....	63
Pigs in Clover.....	281
Pine Pillows.....	448
Pines, Ancient and Modern.....	400
Pipe Smoking.....	269
Poisons, Organic.....	19
Pope's Punch.....	423
Popular Fallacies.....	135
Prevention and Cure.....	387
Protecting the Consumer.....	28
Prudent Foresight.....	20
Public Schools and Politicians.....	43
Pure Food Again.....	282
Food Hnmbugs.....	182
Water.....	532
Queer Food Venders.....	75
Railway Spine.....	339
Raisin Wine.....	57
Reasonable Food.....	352
Retort Courteous.....	194
Rudimentary Organs.....	436
Russian Signs.....	20
Saccharin.....	78
Salt.....	376, 494
Sanitary Science.....	126, 292
Saucepans.....	533
Science in the Boudoir.....	458
Scientific Paradoxes.....	14
Sealskins.....	434
Seaside Swindles.....	124
Sense Intelligence.....	388
Seven.....	126
Sewed Shoes.....	246
Sight and Hearing.....	100
Silk from Wood Pulp.....	530
Slaughter House Economy.....	557
Sleeping by Compass.....	160
Snow, Sanitary.....	19
Soda.....	470
Some of the Let Go's.....	519
Sorghum Sugar.....	567
Sorosis, a Day with.....	107
Spectacle Lenses.....	497
Spectrum Analysis.....	507
Sponges.....	363, 257
Spontaneous Combustion.....	43
Spools for Thread.....	44
Stable Nuisances Remedied.....	20
Stale Bread.....	207
Starving the Teeth.....	182
State Inspection Laws Defeated.....	113
Steel Pens.....	65
Strong Food.....	221
Sugar Refining.....	26
Sun in Baby's Eyes.....	305
Suppression of Good Beef.....	88
Tea Experts.....	570
Tendencies of the Times.....	292

Terpsichore Fettered.....	496
Thank You.....	209
That Movement.....	4
The Chalk Cure.....	39
The Deadly Cigarette.....	43
The Earth's Structure.....	304
The Garter, Pro and Con.....	570
The Government and Adulterations.....	175
Three Hundred Years Ago.....	292
Theism.....	172
The Phonograph Applied.....	581
The Queen Wins—Complete Story.....	554
Thermometers.....	54
The Three Flies.—A Fable.....	500
The Weekly Analyst.....	87, 136
Tights, Danger of.....	19
Time Measurement.....	197
Tobacco Contrasts.....	422
Smoking.....	363
Tomatoes.....	18
Training the Mind.....	482
Trusts.....	198
Turkish Style.....	126
Ups and Downs, Indoors.....	459
Use for Old Papers.....	571
Useful Work of Boards of Health.....	4
Vegetable Hypnotism.....	221
Vizetelly vs. Mumm.....	315
Wall Paper Dangers.....	232
Wasted Study.....	497
Watches.....	514
Water Drinking.....	184
Filtration.....	306
Pure.....	380, 290
Wave Motor.....	88
Weather Wisdom.....	184
Western Beef Cattle.....	448
Whale's Milk.....	19
What Beef Costs.....	42, 57, 63
What is Drink.....	508
to Eat.....	28
Where Colors Originate.....	520
Why We are Right-handed.....	376
Woman's Mission.....	137
Work.....	100, 483
Woman's Ways.....	619
Women Voters.....	54
Wonderful Watches.....	496
Worth, the Dressmaker.....	147
Wrong Man Shot.....	279

NEW BOOKS.

CHEMICAL TECHNOLOGY, OR CHEMISTRY IN ITS APPLICATIONS TO ARTS AND MANUFACTURES. Edited by C. E. Groves, F. R. S., and W. Thorp, B. S. Philadelphia: P. Blakiston, Son & Co.

This volume is the first of a new edition of "Chemical Technology" founded on that written by Richardson and Ronalds, and subsequently enlarged by Richardson and Watts. The latter work, having taken as its basis the German Technology of Dr. Knapp, has long been familiarly known as "Knapp's Technology." Owing to the constant advance of industrial processes, it has been found advisable to issue a new work on Chemical Technology, bringing the subject down to the present period. The series will be divided into sections, comprising Fuel; Lighting; Acids and Alkalies; Glass and Pottery; Metallurgy; Textile Fabrics; Leather; Paper, etc.; Coloring Matters and Dyes; Oils and Varnishes; Brewing and Distilling; Sugar, Starch, Flour, etc. The present volume treats of Fuel and its applications generally. Its importance demands more extended consideration than our present brief space allows, and the work will receive more adequate discussion in these columns at an early date.

HINTS ON HOUSE BUILDING. By Robert Grimshaw. Second and Enlarged Edition. New York: Practical Publishing Co.

This is a little volume whose usefulness is wholly disproportionate to its modest shape and size. Its purpose is explained in its title and amplified in its dedication "to those who board, and to those who inhabit 'flats' and

who are able to do better * * * with the earnest suggestion to Live in a House." Considering its small dimensions, the book contains a surprising amount of practical information for house buyers or builders, relating to sites, plans, proportions and dimensions of rooms, cellars, halls, materials, plumbing, heating, and everything that could be desired in connection with the important subject of which it treats.

ESSENTIALS OF PATHOLOGY AND MORBID ANATOMY. By C. E. Armand Semple. Philadelphia: W. B. Saunders.

This is the sixth of the popular series of Saunders' Question Compounds. It is a useful introduction to the subject of which it treats, and will also be found equally convenient for refreshing the memory. Its value is further enhanced by a large number of carefully executed illustrations.

MOTHER, NURSE AND INFANT. By S. P. Sackett, M. D. New York: H. Campbell & Co.

A very useful book for the guidance of young mothers. Besides containing a large amount of valuable information for nurses, it gives practical information as to the proper care of the child until it has passed through infancy. The best course to pursue in treating all the diseases of children when it is not practicable to call in a doctor or the suddenness and severity of the illness may require immediate action before the physician can arrive is clearly and fully explained. The book is well designed to supplement, not to supersede, the doctor's services and skill.

AM I JEW OR GENTILE? By Thomas A. Davies. New York: E. H. Coffin. 1889.

The purpose of this strangely entitled little volume may be gathered from the concluding paragraph, which claims that the work, if it stands the test of scholarly and scientific criticism, will open the book of "Genesis to a plain and consistent reading, with no confusion of terms in English and Hebrew dotted into the account. It will strengthen belief in the whole Scripture, where belief is now wanted, for the reason alone that the Genesis cannot be understood. It will also enable each inquirer to solve the all-absorbing question propounded: 'Am I Jew or Gentile?' For, by inspection, each one can determine to which type of the human races they belong, and can run back by the Divine law of reproduction to their origin in the creation, either in Adam or The Adam."

RUBBER ASPHALT.—Another article formerly considered worthless has been added to the useful and is known as Miner India rubber asphalt. Produced during the progress of refining tar by acid, and forms a black material very much like nary asphalt, and elastic like India rubber. Heated so that the slimy matter is reduced per cent. of its former size, a substance is produced hard like ebony. It can be dissolved in naphtha, and is an excellent non-conductor of electricity, and therefore valuable for covering telegraph wires and other purposes where a non-conducting substance is needed. Dissolved the mineral India rubber produces a good waterproof varnish. The manufacture of the material is very profitable, and pays the inventors 400 or 500 per cent.

PROTECT THE SCHOOLS.—The New York Evening Post asserts there are sixteen schools in this city not belonging to what is known as the public school system, "which are sharing in the public school moneys, and most of these are of a religious denominational cast. Among these are the Protestant Half-Orphan Asylum, the Methodist Home Missionary School, the Hebrew Orphan Asylum, and the Roman Catholic Asylum. The whole amount appropriated to the sixteen corporate schools referred to was \$97,298 last year." The bill introduced to enable the Catholic Protector to share in the School Fund of New York is therefore no new departure. But the time has arrived for a "new departure," so far as the Empire State is concerned, which shall debar any religious school, Catholic or Protestant, from receiving a dollar of the public school fund.

AMERICAN ANALYST

A Popular Weekly Analysis, for the Family and Consumer, of Everything
Relating to Man's Physical Need and Comfort.

Office, 19 Park Place.

[Entered at the Post Office at New York, as Second-class Matter.]

VOL. V.—No. 52.

NEW YORK, THURSDAY, DECEMBER 26, 1889.

WHOLE No. 148

American Analyst,

PUBLISHED EVERY THURSDAY.

Subscription, - - - - - \$1 per year.
Single Copies, - - - - - 5 cents.
Subscriptions to foreign countries, - \$1.50.
Remit by Express Money Order, Draft, P. O.
Order, or Registered Letter.
Advertising rates on application.

Published by THE ANALYST PUBLISHING CO.,

H. LASSING, M. D., } Editors.
T. P. McELRATH, }

No. 19 Park Place, ... New York.

CORRESPONDENTS AND EXCHANGES.

Please direct all business communications to
THE AMERICAN ANALYST,
19 Park Place, New York.

CONTENTS.

Book Notices	616
Cooking Reform	618
Domestic Dietetics	618
Editorials	617
End of Volume V; Curers who Murder; A Sauerkraut Trust; Railroad Color Blindness; Adulteration in Massachusetts.	
Index to Volume V	615
Ocean Luxuries	618
Woman's Ways	619

END OF VOLUME FIVE.

The present issue closes the Fifth Volume of the AMERICAN ANALYST. It would be superfluous to rehearse the wide and varied discussions in which its activities have been engaged throughout that period, for they are known across the breadth of the continent, and are "familiar in men's mouths as household words." And the fruits our efforts have borne are well known, too, being recognizable in the perceptibly weakening hold that sophistication now has upon our manufactured foods and beverages—a tendency that is emphasized by the collapse of the numerous notorious frauds in those departments which we have exposed and brought to public condemnation. Abuses of that kind are steadily diminishing, but their extirpation is yet far from being completed, and that special mission of the AMERICAN ANALYST remains largely unfulfilled. We shall go steadily on, however, as we have been doing, exposing the nefarious devices of adulterators and charlatans of every description, and thereby placing the public on its guard against the fraud and imposition of unscrupulous knaves. Our steadily developing circulation is constantly widening the radius of our influence, and with growing strength comes increased confidence. Our patrons will find a number of new

features which, we believe, will be in the line of improvement presented for their consideration during the coming year. This closing volume marks likewise the first year of our change from a bi-monthly to a weekly publication. The new system justified itself from the very outset. By reaching the public more frequently we have earned the commendation of both our reading and our advertising patrons, to achieve which we have cheerfully borne the increased expense the charge involved. If our issues have possibly appeared to some less comprehensive than they formerly did it must be recollected that they are now produced fifty-two times in a year instead of only twenty-four. A few figures will indicate the advantage to our readers. The volume for 1888 comprised 516 pages. The present volume contains 624 pages—an increase of 108 in all, including upwards of fifty more pages of reading matter than Volume 4 contained.

With which brief explanation we wish our readers health, prosperity and

A MERRY CHRISTMAS.

CURERS WHO MURDER.

A severe and decisive example should be made of the so-called "Faith Cure" fanatics, the accounts of whose murderous achievements are constantly confronting us in the newspapers. Theirs has proven to be a form of lunacy that is dangerous to society, and to leave them at large, free to carry on their monstrous absurdities, in defiance of law, reason and religion, would be sustaining them in their pernicious practices. Some days ago the health officers of Brooklyn made a descent upon a meeting place of Faith Curists (who style themselves the "Lodge of Faith"), and arrested several persons who were actually infected with scarlet fever and other contagious diseases. The arrested persons at once assumed the exalted air of martyrs, and their crazy companions followed them through the streets to the police station, encouraging them on the way with cries of "God will protect them" and other similar profane declarations. One of the persons arrested had a wife and a six months' old child sick with diphtheria, to both of whom he refused medical treatment. The sufferers were removed to the hospital, and their rooms as well as the "Lodge," were thoroughly disinfected. The prisoners were charged with violating the sections of the penal code that relate to the endangering of public health by causing the spread of contagious diseases. A man named Larssen was tried in Brooklyn last week for refusing to administer medicine prescribed by a physician to his seven-year-old son who had diphtheria. The doctor testified that when he found that the medicine he had ordered had not been administered he asked the father for an explanation. The latter said: "It is God's child, and He will take care of it. If He wants it He will take it." The Justice called Larssen to the stand and questioned him. "I didn't mean

break the law," said Larssen. "I wouldn't take the whole city and break the law, I was only doing God's command." "It's a singular thing," said the Justice, "that in this nineteenth century there are men who have such a foolish belief as you and your society have." "Well," said Larssen, "It's God's wish. We only believe what He tells us." "Then," said the Justice, "If your child fell into the water you wouldn't assist in rescuing it, would you?" "Oh! that would be different," replied Larssen. The accused was found guilty under sections 288 and 289 of the penal code, which make it a misdemeanor for a person willfully to omit "to perform a duty by law imposed upon him to furnish food, clothing, shelter or medical attendance to a minor," or for a person having the custody of a minor willfully to permit "the minor's life to be endangered or its health to be injured." The latest case of the kind was revealed in the death in Brooklyn on December 17th of Miss Frances W. Anderson, a young woman of nineteen, who rejected the medicines prescribed for her. The physician told the girl she had consumption and would probably die if she did not submit to medical treatment. She insisted there was nothing the matter with her, and also said that under no circumstances would she use any medicines which might be prescribed. "I am not ill," she said, "If I were it would be a sin to take medicine. Does not God say, 'I am the great physician?'" In the face of suicidal follies such as the foregoing it is to be hoped that outraged public sentiment will speedily interpose and put a peremptory end to the teaching and promulgating of a superstition so perilous to its votaries and so fatal to the young and helpless.

A SAUERKRAUT TRUST.

The startling information reaches us from Europe that a sauerkraut war is raging in Austria. It seems, such is the perverse levity of human nature with its patriotic impulses curbed down by the tyranny of effete monarchical institutions, to afford amusement to the public notwithstanding that it occasions much trouble and annoyance to the Government. The sauerkraut manufacturers of Austria constitute a close corporation or guild, whose charter was granted to them by the Empress Maria Theresa a century and a half ago. According to the terms of this document the manufacture of sauerkraut is limited to members of the guild in question, who although wealthy, are relatively few, and the Austrian appetite for sauerkraut is every year becoming more enormous. A number of unlicensed manufacturers have sprung up on all sides, who contemptuously ignore the privileges of the guild and a deaf ear to its protests. Public sympathy is altogether against the corner monopoly to keep up the price of sauerkraut, a staple of the Empire, which is demanded by the palace and cottage. The guild has been unable to obtain justice in the courts and jury as consumers of sauerkraut

being alike interested in the maintenance of a sufficient supply thereof to meet the demands of the market, and consequently opposed to the perpetuation of the monopoly. The members of the corporation have therefore drawn up a petition which was presented to the Emperor by a deputation of "sauerkrauters" a couple of weeks ago. His Majesty now finds himself in a quandary. For while on the one hand popular sympathy is against the guild, the latter is clearly entitled by the terms of its Imperial character to the exclusive rights and privileges contained therein.

RAILROAD COLOR-BLINDNESS.

It has become a well established fact that very many of the responsible trainmen employed on the railways of this country are color-blind to the extent of being unable to distinguish the colors used for railway signals. This fact was pointed out years ago by a physician employed by the Pennsylvania Railroad. Some of the railway companies in this country have all applicants for train service tested for color-blindness. The majority do not require this. Every road should require such tests, but not those usually employed, which are so complicated as to confuse men with almost perfect color vision. A railway employé has to know a light at once, without comparing it with any other color, when at work; he never has to match colors in his work, and should not be required to do so when examined. The colors actually necessary are blue, yellow, (which is the color of the railway signal white light), green, mauve and red. These are the colors for which tests are made on the London & Northwestern and other English railways, and an examiner for several roads in the Carlisle district has recently invented an ingenious and simple instrument for such tests, by the use of which the tests are made by means of colored glass and artificial light, instead of colored yarns and daylight. A piece of smoked glass over the colored glass gives the appearance of a fog. Vision for colored lights at nights is what should be most looked after.

ADULTERATION IN MASSACHUSETTS.

From the report of the Massachusetts Board of Health for 1888, we gather that their examination of spices resulted in finding twenty-eight samples of mustard adulterated out of ninety-seven examined. As however, the Massachusetts law makes no allowance for flour additions to prevent deterioration, very little value can be attached to this discovery. Of 146 samples of black pepper 40 were adulterated, and of white pepper 25 samples out of 69. Cayenne pepper only gave 6 bad samples out of 22 specimens, mace, 16 out of 54; cloves, 12 out of 130; and cassia, 13 out of 133. Of the manufactures whose spices were found more or less adulterated the names of A. C. Fitzpatrick & Co., New York; Bacon, Stickney & Co., Albany; F. H. Leggett & Co., New York; W. J. Stitt & Co., New York; and Bugbee & Brownell, Providence; appear the most prominently.

OCEAN LUXURIES.

A FORECAST OF THE STEAMER OF THE FUTURE.

She will be over a quarter of a mile in length, and will do the passage from Sandy Hook to Liverpool in 36 hours, being one night out, says *Once a Week*. She will be driven by electricity, and in such a fashion as to keep railway time, despite of storm or fog. Passages can be secured by flash photo, "Edison's patent," and the ticket will include an opera stall, or a concert ticket, or a seat in a church pew—the opera house, concert hall and church being all on board. A covered ring for horse exercise will also be provided, and a racing track for fast trotters. A baseball ground and tennis court will also form a portion of the attractions. For busi-

ness men a stock exchange will be operated, the quotations being posted from the tickers every two minutes on the vibration system. The leading papers of all countries will be reprinted each morning by the electric reflection system. A spacious conservatory, containing the choicest flowers of all climates, will afford an agreeable lounging-place, and bouquets will be provided gratis. As at Monaco and Monte Carlo, a suite of apartments will be laid out for play, to be kept open all night—a sumptuous supper with costliest wines free. English tailors and shoemakers will be in attendance, and clothes will be made and finished during the passage. The millinery department will contain the French fashions of the previous day, and costumes will be perfected while the ship is *en route*, and delivered complete on arrival at dock. Accommodations will be furnished for 10,000 passengers.

DOMESTIC DIETETICS.

SPECIALLY PREPARED, FROM PRACTICAL TESTS, FOR THE LADY READERS OF THE "AMERICAN ANALYST."

SEASONABLE FOOD.

December.

MEAT.—Beef, mutton, pork, venison, veal.

POULTRY AND GAME.—Chickens, fowls, ducks, geese, turkeys, grouse, capons, hare, rabbit, partridge, pheasants, pea-fowl, Guinea-fowl, snipe, widgeon, wild duck, woodcock.

FISH.—Brill, carp, cod, crabs, perch, salmon, smelts, soles, sprats, tench, turbot, whiting, haddock, sturgeon, oysters.

VEGETABLES.—Jerusalem artichokes, beets, broccoli, cabbage, carrots, celery, endive, winter spinach, eschallots, turnips.

FRUIT.—Apples, oranges, bananas, nuts.

PRACTICAL RECIPES.

STEWED OYSTERS.—Take a dozen medium sized oysters with their juice and add to them a small lump of butter and a little pepper and salt. Put half a pint of rich milk into a saucepan and let it boil up once, being careful not to burn it; add the oysters, butter, etc., let it boil up good just once and serve immediately.

BEEF STEW.—Cut up some soup greens composed of parsley, celery, two or three carrots and small onions, and a few potatoes, add six tomatoes and a good tablespoonful of butter, and pepper and salt. Put this in a saucepan, add a pint of water and boil for half an hour; then add half a pound of ham, two pounds lean beef cut into pieces. Cook for an hour and a half longer and serve. A wineglass of sherry may be added if desired, or a few mushrooms or hot sauce.

RICE WAFFLES.—Rub through a sieve one pint of warm boiled rice, add to it a tablespoonful of dry flour, two-thirds of a teaspoonful of salt, two teaspoonfuls of Horsford's baking powder. Beat separately the yolks and whites of three eggs; add to the yolks three gills of milk. Work it into the flour, then add an ounce of melted butter; beat the whites of the eggs thoroughly; mix the whole together. Heat the waffle iron and grease it evenly—a piece of salt pork is best for this purpose—pour the batter into the half of the iron over the range until nearly two-thirds full, cover, allow to cook a moment, then turn and brown slightly on the other side.

SPONGE CAKES.—One half pound powdered sugar, 5 ounces flour, six eggs, vanilla or lemon flavoring. Weigh the sugar and flour carefully and sift them. Beat the yolks of the eggs until they are very light and creamy, and when so beat into them a little more than one half of the sugar and the flavoring. Beat the egg whites until light, beat into them with long even strokes of the spoon the rest of the sugar, a teaspoonful at a

time. Add the flour and whites to the yolks gently in alternate spoonfuls. Grease small pans, fill with the mixture and bake in a moderate oven.

CHOCOLATE CARAMELS.—Take one pound of sugar with a cupful of fresh milk; put it in your boiling-pan and place on the fire; when it comes to the boil, add about one-fourth teaspoonful cream of tartar; when it has boiled about five minutes add one quarter pound of fresh butter and half a cake of chocolate; keep it well stirred; in a few minutes commence to try it; as soon as it gives one sharp crack remove; stir in a teaspoonful of vanilla extract and pour out, stir this very gently when putting in the vanilla, as it is liable to go grainy on account of the milk, cut it up in small squares.

JUMBLE PUDDING.—Break into pieces one dozen jumbles stale or fresh; put them into a mold and over them pour a cold custard made of two eggs and the yolks of five others, one pint milk and a little ginger flavoring. Serve with a sauce flavored with ginger.

CREAMED POTATOES.—Chop fine a little parsley, put to it three tablespoonfuls butter and some pepper and salt. When hot add a cup of cream or milk thickened with a little cornstarch or flour. Have ready some cold boiled potatoes, stir them into the cream and when quite hot serve.

COOKING REFORM.

PREPARING A MEAL IN A PAPER PULP OVEN.

An invitation sent by Mr. Edward Atkinson to a representative of the *Paper World* "to partake of a three-course lunch which will be prepared by my office-boy, who never cooked anything before, and which will be cooked with one lamp in the Aladdin oven, between the hours of 11 and 2, during which period no one will be permitted to remain in the room," was so unique and almost terrifying in its suggestion of agony for the dyspeptic that but for a stern sense of duty, somewhat reinforced, it must be confessed, by the rumors of Mr. Atkinson's wonderful achievements with his paper-pulp oven, it might have been declined. At the appointed hour one woman and seven men, all wearing a somewhat anxious look, as though uncertain what remorse (in the way of an injured stomach) might overtake them, sat down at the table with Mr. Atkinson at the head. The office-boy, a bright-looking young man about sixteen years old, had seemed somewhat doubtful of the results of his first efforts in the role of chef, and had reminded the guests several times that he did not know anything about cooking. This had not been at all reassuring; but fortunately the fears of the daring investigators were groundless. The menu was as follows:

Consomme.
Rock Bass, with its own fish sauce.
Chickens, roasted outside of some apples.
Macaroni.
Escalloped Potato.
Baked Tomato.
Bird's-Nest Pudding.
Coffee.

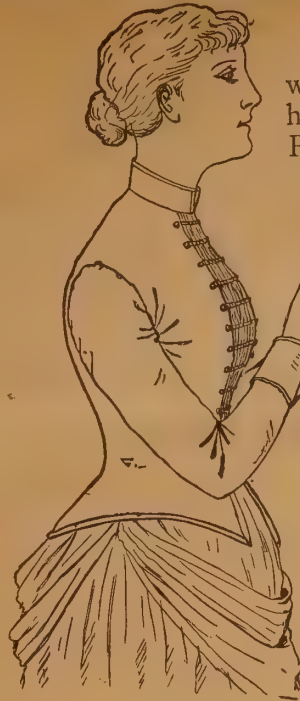
Of course there was present the married man who remembered "the pies his mother used to make;" but even he had little ground for unfavorable comparison. Mr. Atkinson said that his guests would undoubtedly find that the chicken had an unusual flavor, as the method of cooking retained the juices and gave the meat more of the chicken taste. This proved true. The chicken did not seem thoroughly cooked, but it was so tender as to show at once that this was an error, and although the flavor certainly was somewhat peculiar there is no doubt that one would soon become accustomed to it and even prefer it. The vegetables were, as a rule, cooked in a delicious way. The macaroni was not quite done—but this was merely an error of judgment in regard to the length of time it should remain in the oven. Some cold roast ham, which had been cooked some days before, was added

to the luncheon, and all agreed that it surpassed any ham that they had ever before eaten. The bread which was served was also delicious, and, although one loaf had been cooked three or four days before, it was still soft and sweet. Taken all in all, Mr. Atkinson's luncheon was an unquestioned success, and if the untrained office boy could achieve such results what might not be expected with an experienced cook in charge of the culinary department and the Aladdin oven—made of paper pulp!—*Paper World*.

WOMAN'S WAYS.

THE VARIED POSSIBILITIES OF THE FEMININE NATURE.

What can a woman do? She can laugh with her lips—make a man think she is the merriest cricket in the world, while her eyes are full of unshed tears and her heart is beating as if it would burst. She can forgive a great sin like an angel and talk to a man about a petty vice like an importation from the lower regions. She can fix over old frocks and wear them with a cheerful heart, that she may help somebody, and she can spend the first money that she really feels that she can use for herself in going to a matinee and on sweets, when she knows she needs a new pair of shoes. She can quiet a baby with one or two reassuring pats, when a man might almost knock the life out of it, give it a whole bottle of soothing syrup, and it would still be open eyed and aggressive. She can employ a whole day looking for a pair of suspenders for Jack, and yet in the time of trouble she could buy a mourning outfit in half an hour, and her needle would fly as if guided by electricity in sewing on a bridal gown, or a shroud for somebody's baby. She can cry out her troubles on a man's shoulder, and feel a relief that is only possible from masculine help, and ten minutes after she can laugh in that man's face and wonder what men were made for. She can be brave in time of mental trouble; she can stand by and hold the hand of some one who is suffering from physical trouble, and yet she will scream as if she were about to be killed at the suggestion of a mouse or



Beware

Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearlina, or "the same as Pearlina." IT'S FALSE—they are not.

JAMES PYLE, New York.

She reckons well

who does her housecleaning and washing (or has her servants do this work) with PYLE'S PEARLINE.

Why? Because Pearlina makes the largest saving all around; saves half the time; half the labor—more than half the wear. Do you know you don't have to rub the clothes when washed with Pearlina? This saves the woman and makes the clothes last longer (besides, they look better). What can be harder on woman's health than bobbing up and down over a wash board? What can be harder on the clothes—anything harder don't exist.

Millions of women know these facts well; it takes many millions of packages of PEARLINE to supply their demands for it. You have only to prove these facts and you'll demand it. The best way is—try it. Costs little and every grocer has it.

a beetle. She can smile over a dinner of bread and butter and tea, when that's all that she can get, and later on, when prosperity is to the fore, she can turn up her nose at any game below canvass-back duck, and wonder at people caring for anything but the best brand of Burgundy. What can't she do? I will tell you. She can never wear trousers with any grace, and she will never be able to resist either the man or the baby who has got the love of her heart.—*Sun*.

STRAW BINDER.—The Illinois State Grange offered \$10,000 for a device to bind grain with straw. Out of 40 competitors one was awarded the prize, but he declines it having received larger offers for his machine and patents.

SMOKELESS POWDER.—Captain Ledyard Ellsworth, of Hartford, Ct., is the inventor of the smokeless, noiseless powder, for the right to make and use which the German government pays \$500,000 and \$10,000 yearly for 99 years.

DRINK AND LIFE INSURANCE.—Joseph Cook gives the following letter addressed to him by the secretary of one of the principal life insurance organizations in Great Britain: "During the past sixteen years we have issued 9,345 policies on the lives of non-abstainers (and we are careful to exclude any who are not strictly temperate) and 3,396 on the lives of abstainers. Five hundred and twenty-four of the former have died, but only ninety-one of the latter, or less than half the proportionate number." Official statements show that the total abstainer has often paid in life assurance societies from 10 to 17 and 23 per cent. bonus over and above the moderate drinker, to say nothing of the hard drinker.

WHAT IS A SHEENEY? Barlett's Dictionary of Americanisms, edition of 1877, defines "sheeney, a sharp fellow looking out for some one whom he can cheat, or with whom he may drive a sharp bargain." The Slang Dictionary of New York, London, and Paris, edition of 1881, defines sheeney as a Jew thief, a low Jew. We are indebted to Mr. J. J. Noah of Washington, D. C. son of the late Mordecai M. Noah of New York city, one of the best authorities upon all matters relating to the Hebrew race for the following: Consult the Hebrew alphabet for letters "Sheen" and "Seen." Sheeney is a slang term originally applied by the cockneys of London to the Jews in Petticoat Lane, and other low quarters where the Jews of the common grade congregated in old times and dealt in second-hand clothing and other wares. It has no significance, philologically considered, and probably arose from some peculiar adaptation of the Hebrew letters "Sheen" and "Seen," "S" and "Sh."

HARTSHORN'S SELF-ACTING SHADE ROLLERS

NOTICE

SCRIPT NAME OF *Stewart Hartshorn* ON LABEL, AND GET THE GENUINE **HARTSHORN**

Fine Table Wines

From our Celebrated Orleans Vineyard.

Grand Barakathy & Co.

Producers of the **ECLIPSE** CHAMPAGNE, 530 Washington St. SAN FRANCISCO.

GENERAL AGENCIES:

NEW YORK: PARK & TILFORD, 917 Broadway.
PHILADELPHIA: F. P. DILLEY & CO., 25 North Tenth St.
CHICAGO: C. JEVNE & CO., 110 Madison St.
ST. PAUL: C. JEVNE & CO., 114 E. Third St.

TO THE CONSUMER!

"PAVONIA BEER"

MANUFACTURED FROM THE

Best Grade of Imported Malt and Hops.

ENTIRELY FREE FROM THE PUNGENT TASTE OF THE ORDINARY BEERS.

It commends itself to the Consumer as a pure, wholesome and delicate Beer; can be safely used by Invalids.

Specify Export Pavonia Beer, White Label, when ordering

OTIS S. NEALE,

HOWARD STREET,

BOSTON, MASS.

HOSPITAL REMEDIES

THE Following Prescriptions of the Brightest Medical Minds in the world, as used by them in the Hospitals of London, Paris, Berlin and Vienna.

ONE MEDICINE FOR ONE DISEASE.

No. 1—Cures Catarrh, Hay Fever, Rose Cold, Catarrhal Deafness.

No. 2—Coughs, Colds, Bronchitis, Asthma, Consumption. A Peerless Remedy.

No. 3—Rheumatism, Gout.

No. 4—Liver & Kidneys, Dyspepsia, Indigestion, Constipation, Brights Disease.

No. 5—Fever and Ague, Dumb Ague, Malaria, Neuralgia.

No. 6—Female Weakness, Irregularities, Whites. A Golden Remedy.

No. 7—A Perfect Tonic, which gives Health, Form and Fullness, Clear Complexion, Good Blood and lots of it.

No. 8—Nervous Debility, Loss of Power, Impotence, an incomparable remedy.

RELIABLE AGENTS WANTED.

Every bottle guaranteed its special disease to give permanent results.

OUR MILITIA FORCE.—The registered State militia of the United States is 99,201. The number of men available for military duty in case of war is 8,331,227.

THE PEANUT SUPPLY.—The demand for peanuts has trebled in the past few years, and the crop has never been sufficient to supply the demand.

PARIS BREAD.—The 1,880 bakers of Paris are reported as using up close upon two million sacks of flour annually—equivalent to 13,300,000 bushels of wheat.

ARTIFICIAL GLOW WORMS.—An inventor named O. L. McClellan, of New York, has succeeded in reproducing artificially the light of the glow worm. The production of this illuminant means the utilization of energy without material waste and without heat.

ETHER MOTOR.—M. de Susini, a Corsican doctor, has, it is asserted, constructed a motive apparatus or propeller of 20 horse-power, which is worked by sulphuric ether—a result which the doctor anticipates will realize a saving of 65 per cent. of the combustible material at present employed for setting machinery in motion.

ELECTRIC WELDING.—The electric current has recently been employed in welding metal and tempering steel springs. An American electrician has also devised a method of expanding hoops and wheel-tires by heating them with the current. It is claimed for the new process that the heat is more uniformly distributed than with gas furnaces or piles of embers. The current is brought by wires connected to opposite points on the tire, and divides equally through each half of the ring.

VASELINE AND WATER.—According to M. Klebs, of Brussels, the inconvenience sometimes experienced in dispensing through the immiscibility of vaseline and water may be overcome by the aid of castor oil. The addition of this oil in the proportion of two drops to a gramme of liquid he has found to be sufficient to produce a perfectly homogeneous mixture. By this means potassium iodide may be introduced into an unguent without danger of the decomposition that takes place after a time when fat is used.

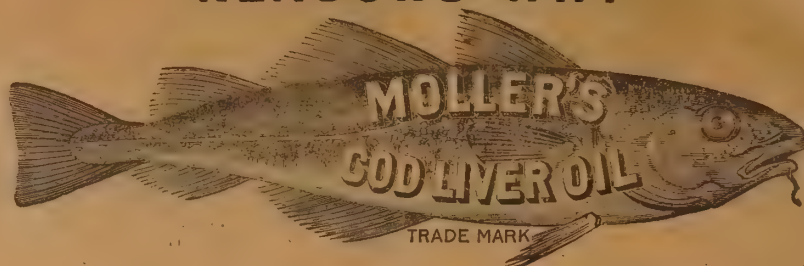
POTATO SOAP.—*L'Industrie Parisienne* states that in many of the laundries of Paris boiled potatoes are preferred to soap for cleansing soiled linen. The journal does not state how the tubers are used.

CRACKS IN STOVES.—Make a putty of reduced iron (iron by hydrogen) and a solution of sodium or potassium silicate, and force it into the crack. If the crack be a very narrow one, make the iron and silicate into a paste instead of putty. This material grows firmer and harder the longer the mended article is used.

TO COPY ENGRAVINGS.—To make a fac-simile of an engraving expose it in a warm, closed box to the vapor of iodine, then place it, inside downwards, on a smooth, dry sheet of clean white paper, which has been brushed with starch water. After the two prepared surfaces have been in contact for a short time a fac-simile of the engraving will be reproduced more or less accurately, according to the skill of the operator.—*British and Colonial Druggist*.

SOLID NATURAL GAS.—A dispatch to the Cleveland (O.) Press from Anderson, Ind., says the process of condensing natural gas, invented and patented by Adrian Hill, of this city, is attracting widespread attention. Every mail brings letters from capitalists inquiring into the merits of the invention. The great possibilities of it have attracted the attention of the Standard Oil Company, and representatives of that corporation from Cleveland and New York have made the inventor flattering propositions should the plan prove a success. Hill said there could be no doubt as to the possibility of his process. He is now engaged in the construction of necessary apparatus, and will shortly give a practical exhibition by reducing a quantity of natural gas into solid substance. The process itself, as well as the machinery needed to carry it out, is very simple. Gas, when transformed into solid matter, is not dangerous to handle. Its expansive force is very great, and when the substance becomes heated above a certain degree it will become very volatile, and will burst an ordinary cask or can, but the heat is gradual, and the gas does not explode. The inventor claims that with a ten-horse power engine he can reduce enough gas in one day to supply a city of fifty thousand inhabitants with fuel for twenty-four hours.

REASONS WHY



Should be preferred to all others:

Because—It is genuine-pure, just as it existed in the hepatic cells of the living fish, not depleted of its natural virtues by any process of refining, nor weakened by being made into an emulsion with an equal quantity of water, glycerine, etc., which latter device makes water bring the price of Oil.

Because—In taste and smell it is not offensive, but instead, sweet and agreeable.

Because—Its administration is always followed by satisfactory results.

Because—It is more easily assimilated than other Oils.

Because—It is more nutritious than other Oils.

Because—Of its perfect digestibility, perfect limpidity.

Because—This perfect Oil costs consumers no more than the poorer qualities abounding in the stores.

Because—It is readily obtainable; all well-stocked Drug Stores have it.

Because—It is unquestionably the purest and best COD-LIVER OIL IN THE WORLD.

W. H. SCHIEFFELIN & CO.,
NEW YORK.

Sole Agents for U. S. and Canada.

A NEW FRUIT.—Carlton Bailey, of San Mateo, Fla., who is in Baltimore looking after the orange interests of his father, Alfred Bailey, brought to "The Sun Office" several specimens of a fruit new in America. It is called "Kumquat," and is of the citrus family and of the orange variety. The fruit is about the size of an ordinary persimmon, and is oblong; otherwise it very much resembles the ordinary orange. The seed was imported from China three years ago and planted by Mr. Bailey. The tree is about ten feet high, very prolific, and its foliage is a darker green than the ordinary orange.—*Balt. Sun*.



BLAIR'S PILLS.

Great English Remedy for Gout, Rheumatism and Kidney Complaints.

Sure, Prompt and Effective. Oval round box 14 pills. At all druggists, and 224 William St., New York.

AMERICAN ANALYST CLUB RATES.

	Price Including Regular American Price. Analyst.		Price Including Regular American Price. Analyst.
American Rural Home.....	\$1 00 \$1 50	Harper's Weekly.....	\$4 00 \$4 00
American Agriculturist.....	1 50 1 60	Harper's Monthly.....	4 00 3 60
Art Amateur.....	3 50 4 00	Household.....	1 10 1 35
Arthur's Home Magazine.....	1 50 2 00	Housekeeper.....	1 00 1 25
Art Interchange.....	3 00 3 25	Ladies' Home Journal, Philadelphia.....	1 00 1 50
Babyhood.....	1 50 1 60	Ledger, N. Y.....	3 00 3 00
Ballou's Magazine.....	1 50 1 75	Lippincott's Magazine.....	3 00 2 50
Cassell's Family Magazine.....	1 50 1 75	National Tribune, Washington.....	1 00 1 50
Century.....	4 00 4 25	New York Weekly.....	3 00 3 00
Christian Herald, N. Y.....	1 50 1 50	Our Day, Boston.....	2 00 2 50
Christian Union.....	3 00 3 10	Our Little Ones and Nursery.....	1 50 1 75
Cosmopolitan, N. Y.....	2 40 2 50	Outing, N. Y.....	3 00 3 00
Cottage Hearth.....	1 50 1 50	Peck's Sun.....	2 00 2 25
Country Gentleman.....	2 50 2 50	Peterson's Magazine.....	2 00 2 00
Current Literature.....	3 00 3 00	Popular Science Monthly.....	5 00 4 75
Demorest's Magazine.....	2 00 2 10	Puck.....	5 00 4 50
Family Story Paper.....	3 00 3 00	Rural New Yorker.....	2 00 2 30
Farm and Fireside.....	50 1 00	Saturday Night, Philadelphia.....	3 00 3 00
Fireside Companion.....	3 00 3 00	Saturday Evening Post, Philadelphia.....	2 00 2 00
Forum.....	5 00 5 00	Scientific American.....	3 00 3 25
Frank Leslie's Illustrated Newspaper.....	4 00 4 00	Scribner's Magazine.....	3 00 3 00
Frank Leslie's Popular Monthly.....	3 00 3 00	Vick's Illustrated Monthly.....	1 25 1 60
Godey's Lady's Book.....	2 00 2 25	Wide Awake.....	2 40 2 60
Golden Days.....	3 00 3 00	Yankee Blade.....	2 00 1 50
Good Housekeeping.....	2 50 3 00	Young Ladies' Journal, English Edition.....	4 00 3 50
Harper's Bazar.....	4 00 4 00	Youth's Companion.....	1 85 2 25
Harper's Young People.....	2 00 2 25		

If any paper is desired, not mentioned in the above list, a postal card inquiry will receive a prompt reply. Address,

THE ANALYST PUBLISHING CO.,

19 PARK PLACE, NEW YORK.

TRADE MARKS.

We have had long experience in the matter of Trade Marks, and protection against Infringements and Imitations. Any further information may be obtained by addressing the

AMERICAN ANALYST,

19 PARK PLACE, NEW YORK.

Established in London, 1831.

DEAN'S PATENT ARDENTER MUSTARD.

BEST IN THE WORLD.



Ardenter Mustard Pellets

—FOR—

Dyspepsia and Indigestion.

UNIVERSALLY recommended and prescribed by physicians. The medicinal property are English mustard seed coated with pepsin and sugar. You will find it will relieve you after using two or three doses. It is very beneficial for Heartburn, Sour Stomach and Headache. They are a beautiful confection for children. Each bottle contains full directions.

W. G. DEAN & SON,

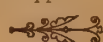
361 and 363 Washington Street, 84, 86 and 88
North Moore Street, New York.

TWELFTH SEASON.

MRS. McELRATH'S

Preserved Brandied, Canned and Spiced Fruits, Jellies, Jams, Pickles and Mince Meat.

Put up in Glass Jars, and warranted pure. A stock of choice Preserves and Jellies constantly on hand. Circulars, with references and prices, sent on application. Address,

 Mrs. SARAH S. McELRATH, 393 Degraw Street, Brooklyn, N. Y.

Tabasco Pepper Sauce

OR LIQUID PEPPER.

Is simply the Pulp of the Ripe Pepper Extracted by Pressure.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma, as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced, by connoisseurs, to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

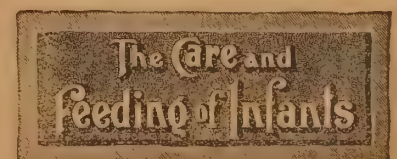
Manufactured by E. McILHENNY,
NEW IBERIA, LA.

For Sale by all Wholesale Grocers.



The Only Perfect Substitute for Mother's Milk.

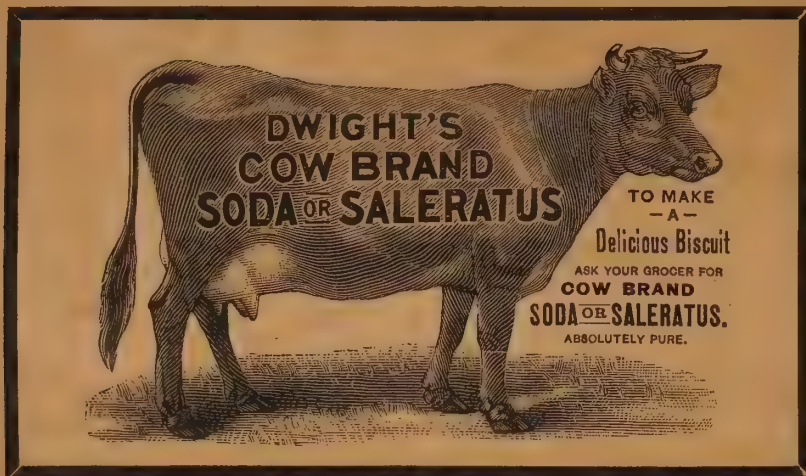
A Copy of our Book,



will be MAILED FREE to any address.

DOLIBER, COODALE CO.,

40-41-42-43 Central Wharf, Boston, Mass.



THE GREAT AMERICAN TEA COMPANY

BETTER NEWS TO LADIES

and All Lovers of Fine Teas

THE CHOICEST EVER IMPORTED. NOTHING LIKE IT EVER KNOWN IN QUALITY, PRICES, PREMIUMS AND DISCOUNTS.

A CHANCE OF A LIFE-TIME. GET PREMIUM NO. 27.

Latest and Best Inducements offered in Premiums and Discounts to introduce and get orders for our New Teas Just Received, which are **Picked** from the **Select Tea Gardens** of China and Japan, none but the Highest Grade Leaf being used. All guaranteed absolutely Pure. Handsome New Premiums of Imported China, Lamps, &c., given away with orders of \$10.00 and upwards, or discounts made if preferred. Good Teas 30, 35 & 40 cts. Excellent Family Teas 50 & 60 cts. Very Best 65 to 90 cts. per lb. Special—We will send by mail a **Trial Order** of 3 1/2 lbs. of our very Fine Teas on receipt of \$2.00. When ordering be particular and state if you want Formosa or Amoy Oolong, Mixed, Young Hyson, Gunpowder, Imperial, Japan, English Breakfast or Sun-Sun Chop. No Humbug. Remember we deal only in Pure Goods. Send at once for a **Trial Order** to the **Old Reliable** and enjoy a cup of Good Tea. For particulars address The Great American Tea Co., 31 and 33 Vesey St., New York, N.Y. P. O. Box 287.

SWIFT'S

CHOICE

Chicago Pressed Beef

—AND—

MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is **RETAILED BY ALL FIRST-CLASS BUTCHERS.**

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the **PUBLIC MAY REST ASSURED** that in **PURCHASING OUR MEAT** from dealers they will **ALWAYS RECEIVE THE BEST.**

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

MALTINE

MALTINE is far superior in nutritive and diastatic value to any Malt Extract manufactured in the World. There is no reconstructive that excels Maltine in Phthisis and many wasting Diseases.

MALTINE in its different forms is the only malt preparation we now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in our minds than there is of the curative power of Quinine, Cod Liver Oil, the Bromides, and the Iodides.

It deserves to stand in the front rank of constructives, and the constructive by their preventive, corrective, and curative power are probably the most widely useful therapeutical agents that we possess.

PROF. L. P. YANDELL.

MALTINE is a valuable food, a food of priceless value at times of emergency. In fact, in very grave gastric cases it is a food which may be often resorted to when at one's wits end what to do.

J. MILNER FOTHERGILL.

Out of 14 trade samples of Malt Extract examined by Messrs. Dunstan & Dimmock, **ONLY THREE** possessed the power of acting on starch. These brands were **MALTINE**, Corbyn, Stacey & Co.'s Extract, and Keppeler's Malt Extract.

WILLIAM ROBERTS, M.D., F.R.S.

I have subjected "Maltine" and all other leading "Extracts of Malt" to an exact quantitative comparison of their diastatic activity. The results demonstrate conclusively the far greater diastatic value of Maltine, and enable me to state, without any qualification whatever, that it far exceeds in diastatic power any of the six preparations of Malt which I have examined.

R. H. CRITTENDEN.

Professor of Physiological Chemistry in Yale College.

At the International Health Exhibition held in London, England, the only gold medal and the highest award of merit were given to Maltine by a Jury composed of the best chemists in Europe, and recent analyses made by the most reliable authorities in Europe and America prove conclusively that Maltine—in nutritive and diastatic value—is superior to all other malt preparations now in the market.

NOTE.—Physicians will observe that Maltine, as now prepared, is not so viscid as formerly made, being of a more fluid consistency; and, while retaining the nutritive and diastatic value which has given it precedence over all other Extracts of Malt, it is rendered entirely agreeable to the taste of the most fastidious, and is more easily administered. As now prepared, we positively guarantee that Maltine will not ferment or congeal in any climate or at any season of the year.

COMPLETE LIST OF MALTINE PREPARATIONS.

MALTINE (Plain).	MALTINE with Phosphates, Iron
MALTINE with Alternatives.	Quinine, and Strychnia.
MALTINE with Cod Liver Oil.	MALTINE Ferrated.
MALTINE with Hypophosphites.	MALTO-YERBINE.
MALTINE with Peptones.	MALTO-VIBURNIN.
MALTINE with Pepsin and Pancreatine.	MALTINE with Cascara-Sagrada.

Physicians may obtain Maltine from all druggists in every part of the world. In cases where the physician intends to prescribe Maltine, the word "Maltine" should be written, and not simply the words "Malt Extract," or "Extract of Malt."

Send for Pamphlet giving comparative analysis by 100 of the best Analytical Chemists in this country and Europe.

We will be happy to supply any regular practitioner with eight ounces each of any three Maltine compounds that may be selected from our list, providing he will agree to pay express charges on same.

THE MALTINE MANUFACTURING CO.,
34 Warren Street, New York.

Laboratory, Yonkers-on-Hudson.

In corresponding with Advertisers, please mention the **AMERICAN ANALYST.**



The Edge Hill Wine Co.,

10 BARCLAY ST., N. Y.

Vineyards at St. Helena, Napa County, Cal.

STRICTLY PURE WINES ONLY.

LETTER FROM COL. ROBERT G. INGERSOLL.

"I have been using some of the wines produced by the Edge Hill Vineyard Company and have found them excellent. The Sauterne is superb—much better than most of the imported that costs five times as much. The same is true of the Claret and the Riesling. The time is soon coming when Americans will know enough to appreciate the wines of their own country. Most people judge of wines, not by what is in, but by what is on the bottle. They taste the label, and then they are not positive that they like it until they know the cost. If you could only manage to have the Edge Hill Wines imported, they would taste as good then to the 'judges' as they do to me now."

Yours truly, R. G. INGERSOLL.



FACIAL BLEMISHES

The largest Establishment in the World for the treatment of Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Moth, Freckles, Wrinkles, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Pitting, Powder Marks, Bleaching, Facial Development, etc. Send 10 cts. for 128-page book on all skin imperfections and their treatment.

JOHN H. WOODBURY, Dermatologist.

125 West 42d Street, NEW YORK CITY, N.Y.
P. S.—Dr. Woodbury's Facial Soap for the skin and scalp, for sale at all druggists, or by mail, 50 cents.



Rogers' Royal Herbs.

Cures Constipation, Biliousness, Dyspepsia, Sick Headache and Kidney Troubles. It is the great

LIVER & KIDNEY CURE.

Unequalled for producing a fine complexion. Makes the skin fresh and clear by purifying the blood. *Provided you will name this publication and*

SEND 10c. we will mail you a trial package; or the regular package for \$1.

Rogers' Royal Remedies Co., 41 Essex Street, Boston, Mass.

HAMMOND'S

CELEBRATED

Calumet Oleomargarine

Strictly pure, cheap and healthful.

Ask your grocer for it.

Put up in packages of all sizes, also prints and rolls.

GEO. H. HAMMOND & CO.,

607 to 615 THE ROOKERY,

CHICAGO.

Also offices at Boston, South Omaha, Neb., and Hammond, Ind.

JOHNSON LOCKE MER. CO.

Shipping & Commission Merchants,
SAN FRANCISCO, CAL.

Agency at **PORTLAND, ORE.** Agency at **LOS ANGELES, CAL.**

We are agents of the largest line of Grocery articles of any house on the Pacific Coast, and are Exporters of

California Canned and Dried Fruits, Raisins,
 Walnuts, Almonds, Dried Grapes, Borax,
 Barley, Mustard Seed, Salmon,
 Canned and Barreled, etc.

ADVANCES MADE ON CONSIGNMENTS.

❖ **PICTURES.** ❖

All kinds of small pictures enlarged to life-size.

**FINE PORTRAITS IN CRAYON,
 PASTEL, WATER-COLOR,
 OIL, OR INDIA-INK,**
 at Lowest Prices consistent with good work.

PORTRAIT MINIATURES IN ANY STYLE

MRS. F. M. G. PENDER,
 47 West Twenty-Second St., New York.

Pure LAGER BEER,

**"IMPERIAL" and
 "CULMBACHER"**

Brewed & Bottled

**SPECIALLY FOR
 HOTELS, CLUBS**

**AND
 PRIVATE FAMILIES**

Beadleston & Woerz

291 W. 10th St. New York.

Orders by Postal Card
 promptly attended to.

LEA & PERRINS'
SAUCE.



The Original and Genuine "Worcestershire" Sauce.

Lea & Perrins

Signature is on every bottle of the genuine and original.

JOHN DUNCAN'S SONS, NEW YORK.

ESTABLISHED 1872.

GELATINE.

JAMES CHALMER'S SON'S

Transparent Gelatine.

PURITY—STRENGTH.

Best for Family Use.

Jellies, Blanc Mange, Etc.

ACKNOWLEDGED BY EVERY ONE EQUAL TO THE BEST.



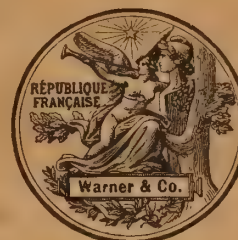
Sura Cura **ROBINSON'S**
SURE CURE
FOR
RHEUMATISM

And NEURALGIA,
 And remedy for diseases arising from an impure state of the blood. An antidote for **MALARIA**. Price 50 c. and \$1. Sent by mail on receipt of price. Send for Circular.

R. W. ROBINSON & SON,
 184 Greenwich Street,
 NEW YORK.



Sura Cura



To MESSRS. WM. R. WARNER & CO.

I have used Effervescing Bromo-Soda very extensively, and can cheerfully recommend it to my professional brethren. It is of great value to those practitioners making a specialty of Nervous and Mental diseases. The addition of the grain of Caffein Hydrobromate to the thirty grains of Sodium Bromide, I think a most happy idea. I recommend your Bromo-Soda, because I have used Sodium Bromide for years instead of the Potassium Bromide. Sodium Bromide is not a foreign salt in the system, is much less depressant, can be used where the heart is extremely weak, and does not impair the integrity of the muscular tissue. Does not cause bad breath, neither does it cause acne, nor impair pharyngeal sensibility. It is much more palatable, and has the happy faculty of agreeing with the stomach, where the corresponding Potassium Salt often gives us so much trouble. I find Effervescing Bromo-Soda very valuable in cases superinduced by over-work of a mental kind. In fact, at times when overworked, I have refreshed myself with a little in water.

I use Effervescing Bromo-Soda in dessert-spoonful, rather than tea-spoonful doses, desiring to spare myself the necessity of repeating. I put this quantity in a glass not quite half full of water, order it drunk while effervescing, and find it to operate as if by magic.

J. K. BAUDY, M.D., L.L.D.,

Professor of Nervous and Mental Diseases,
 Missouri Medical College,
 St. Louis, Mo.

DR. PRICE'S CREAM BAKING POWDER

MOST PERFECT MADE.

Its superior excellence proven in millions of homes for more than a quarter of a century. It is used by the United States Government. Endorsed by the heads of the Great Universities as the Strongest, Purest and Most Healthful. Dr. Price's Cream Baking Powder does not contain Ammonia, Lime or Alum. Sold only in Cans.

PRICE BAKING POWDER CO.

NEW YORK. CHICAGO. ST. LOUIS.
SAN FRANCISCO.

UNEQUALLED

Ask your Grocer for, and insist on having, **LEA & PERRINS'** Sauce, "The Worcestershire." It is known throughout the whole civilized world as the Best and most Delicious Sauce.

DELICIOUS

It is the Original and Genuine. Beware of Bogus Worcestershire Sauces.

SCOTCH MARMALADE, Jams, Fruit and Wine, Jellies, &c.

By James Keiller & Son, Dundee.

SCOTCH BISCUITS, Albert, Water, and Oat Cake,

By Robert Middlemass & Son, Edinburgh.

RACAHOUT des Arabes, by De Langrenier, Paris.

BAY WATER, West India, (J. D. S. brand), in cases, one dozen bottles.

Sold by all first-class Grocers.

JOHN DUNCANS' SONS, 43 Park Place, New York. Agents for the United States.

ESTABLISHED 1823.

ALEX. YOUNG CO., Limited,

DISTILLERS OF

Y. P. M. WHISKIES.

DISTILLERY, - - - Nos. 408, 410, 412 and 414 South Street.

MALT HOUSE, - Nos. 416, 418, 420, 422 and 424 South Street.

STORE, - - - - - No. 700 Passyunk Avenue.

PHILADELPHIA, PA.

New York Office, - 78 Wall Street.

FOR SALE BY

PARK & TILFORD, and ACKER, MERRALL & CONDIT.



[SOLID.]

SUPERIOR TO
ALL OTHER
EXTRACTS,
WHETHER OF
FOREIGN OR
DOMESTIC
MANUFACTURE.

ARMOUR'S EXTRACT OF BEEF.

MADE ONLY FROM THE FINEST QUALITY OF
FRESH BEEF.

INVALUABLE FOR
SOUPS, SAUCES,
DELICIOUS

BOUILLON,

And strongly endorsed
by the Medical
Profession for

INVALID'S BEEF TEA



[FLUID.]

GLENN'S SULPHUR SOAP.

Physicians know the great value of the local use of sulphur in the Treatment of Diseases of the Skin.

Glenn's Sulphur Soap is the Original and Best combination of its kind, and the one now generally in use. For sale by All Druggists.

Beware of Counterfeits.

Wholesale Depot,

C. N. CRITTENTON,

115 FULTON STREET,

NEW YORK.

Samples of above Soaps SENT FREE on application.





UNIVERSITY OF ILLINOIS-URBANA



3 0112 120356602